

# THE MICHIGAN FARMER,

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Relating to the Farm, the Garden, and the Household.

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## The Michigan Farmer,

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## The Farm.

### Agricultural Chemical Theories.

Every reading farmer is somewhat acquainted with the immense prospective results which were thought to have been attained by practical agriculture when Liebig's first work was published, and how the views he set forth were at once adopted as the basis of the theory on which a correct system of agriculture was to be carried out. The distinguished chemist of Giessen followed up his investigations, by an attempt to construct special manures which would supply plants with the food they were known by analysis to need for their growth, increase, and the ripening of those parts which were of the utmost value. Wheat needed certain ingredients to enable it to make a heavy growth of grain. The grasses required a large growth of leaf and culm, the roots wanted food that would supply in a greater degree than the soil could do it, the elements that would aid to form their great masses of succulent substance, and the soil being analyzed and found wanting, was to be supplied with the due proportion that the crops intended to be grown needed to perfect them. Meanwhile the absorbing properties of the soil were charged with the duty of not only holding but of letting loose the phosphoric acid, the lime, the potash, the silica, &c., as the roots of the several crops might select them, according to the dictation of their necessities, for all that was needed was a good supply of the minerals which the chemists had found to exist in the ashes of plants which had been reduced by fire. This theory, however, was not found to work well in practice, for it was found that clover, which is one of the most exhausting of crops so far as the withdrawal of mineral substances from the soil is considered, and especially of matters entering into the composition of wheat, actually left the soil in better state for the growth of wheat, than it had been previous to the clover crop. Augustus Voelcker, the distinguished chemist of the Agricultural Society of England, states this fact as follows:—

"The exhaustion of mineral substances by a crop of clover, not only effects one or the other mineral constituents found in the ashes of plants, but all the mineral matters entering into the composition of wheat. A crop of clover thus removes a large quantity of phosphoric acid, potash and lime, and with the exception of silica, of all other mineral matters that are required by a crop of wheat, and yet wheat succeeds remarkably well after a crop of clover." It thus being found that the mineral theory would not work, recourse was had to the powers of these substances to absorb volatile ammonia and give out nitrogen.

Professor Way, and Messrs. Lawes and Gilbert, set on foot a series of experiments to test the truth of their theory, and they came to the conclusion that the fertility of the land was owing to the presence of the silicates of potash, soda and alumina which had the power of forming insoluble compounds with ammonia, which was thus stored up for the use of plants, and the ammonia was thus preserved from dissipation by the action of air, or of water. This however was disputed by Liebig, whose experiments at last led him to conclude that though the absorbing powers of the soil, on which really rests its great powers of fertility, were due in part to the chemical action of the silicates, and hydrates of alumina, yet that they were more dependent upon the physical condition of the soil.

A new investigator, in the *Annales de Chimie et de Physique*, named M. F. Brustlein, has, however, overthrown both of these theories, and brought the theory of the absorbing property of the soil for volatile ammonia, or rather for the volatile fertilizing substances of manure, into another and correct form. The experiments which he made to test the correctness of the views of Liebig and of Way, were made at the suggestion of the celebrated Boussingault. M. Brustlein found that vegetable mould and peat were quite inert towards ammonia, when existing in a solution as a salt, but that they had the power of absorbing free ammonia in the same manner as charcoal, and that the soil had this property, and that it might be promoted and increased by the treatment of land. He, therefore, infers "from his experiments that the ammonia absorbed by the soil is chiefly retained as such, being neither modified nor transformed into any other nitrogenous compound."

The last conclusion, indicates more simply and reasonably than any theory yet put forth where and in what lies the great secret of giving to plants depth of soil. The more depth, and the more loose the soil, the greater its surface power of attraction for the volatile ammonia in which consists so much of the value of manures. The whole subject of the theory of the action of the soil is very much simplified by these investigations of M. Brustlein, whilst at the same time the history of the various theories that have been twisted out of partial experiment by the most celebrated chemists, serves to show that chemistry is not agriculture any more than Physiology is the art of feeding live stock.

### Care of the Hog.

No part of his business is of more importance to the farmer at the present time than the care of his swine, and yet probably there are few of his stock less understood. Most men think they are doing all for their hogs that it is possible to do when they feed them all the corn they can eat. Possibly this may be true; for they may have no facilities for doing better, and all they have in their power to do is to feed the corn as it comes from the husk, and throw in basketful after basketful of ears without knowing what they are doing. But it is evident from all the experiments made by the most successful feeders that while such a feeder is doing all he can for his hogs, it is not really all he can do for himself. The experiments of such men as Cassius M. Clay, and the late Mr. Ellsworth, demonstrated that whilst a bushel of corn fed in the ear to swine made but five pounds of pork, the same quantity cooked, made from fourteen to seventeen pounds; and by some other experimenters, the produce of pork to the bushel of cooked meal or corn has been as high as eighteen pounds. Still it is not every

farmer who can afford all the facilities for boiling, weighing and testing what he is doing in this department of his stock, for much of the usual practice is to let the animals run on the road or in the woods till the fall season is pretty well spent, and then shut them up with the corn crib over head, and hence year after year he raises his own pork, as he thinks cheaply, but in reality if he were to keep an account of what his meat cost him, he would find that it would have paid him to have sold his corn and bought his pork.

Both in breeding, raising and feeding, we find that with few exceptions, the hog has but little chance to pay his owner for his feed. Many farmers treat with great indifference the subject of breed, but that is because they have not given the subject a fair trial, or have not had the opportunity of observing. For the last six months, we have watched the growth of the full bred, the half breed and the native, not under the most favorable circumstances for either, it is true, but all were on the same footing as regards care and food. The full bred hogs were of the Improved Essex breed, a black hog, without the least white on its whole surface, very thin skinned, with little hair, fine bones for its size of carcass, and remarkably delicate in the ear and head. These hogs, of which there has been a litter of full bred, when turned out, as they were obliged to be, to provide for themselves, kept up their round outline, their plump fullness of form on the merest addition to pasture, and when let run with hogs of the same age, of the common white stock of the country, they kept gaining in flesh and size, whilst their companions were angular, sharp nosed, razor-backed, and slabsided. The cross breeds, by which is meant the progeny of a full bred boar and common sow, while showing much thriftiness, and a great improvement over the common stock, are larger in the leg, and have not the breadth of body, and peculiar fineness of bone and delicacy of head and ear which distinguishes the full bred. Neither does the same amount of food seem to have the effect of giving them that rotundity of form, or to put on flesh with such rapidity as in the full bred animals. Of course no actual data, based upon precise comparisons can be obtained without the use of scales; and when they are not in use little can be said as to the true results that might be obtained by a comparison of the three varieties. But this problem we hope yet to be able to solve. Mr. Edson, the liberal general agent of the celebrated Fairbanks' Scale, has placed at the service of the Agricultural College, a four ton cattle scale, which, when once got in operation, will yield the means of determining a variety of questions of the utmost service to the agricultural community, and amongst others the true comparative value of the full bred, the half bred and the native hog.

The second point in the management of the hog is that of housing. One of the best authorities makes the following remarks on this point: "Pigs, like all other stock, will well repay extra care and attention, and proper lodgings and yards are as necessary for their well-being, as to any other animals; but because they may be sometimes found in a state of extreme filth and wretchedness, it is presumed that the hog is naturally a dirty animal, and that he may be lodged any how. This is a mistake, for I have had considerable experience with this class of stock, and believe from what I have observed, that the pig is an extremely clean animal; and moreover, that he will fat a great deal faster and be better meat, if maintained in cleanliness and comfort, than when allowed to grow in the filthy state so often found. Hogsties should not be too large, and should be open to the south. They should always consist of two parts, the lodging and the yard.

"The lodging should be a well enclosed and warm apartment, with the floor slightly raised above the level of the yard. If the lodging be occasionally cleaned out, and fresh straw liberally supplied, the pig will never dirty it, which proves his inclination to cleanliness. The yards should be placed so that the manure may be easily removed to the manure heaps."

It is upon this plan that a cheap range of

pens was constructed at the Agricultural College the past summer. There are six pens altogether; one occupied by the boars, of which there are two, both of Essex blood, and each so differently bred that there is not the slightest relationship to each other; one by eight half bred shoats; one by eight fatting hogs, one by about twenty-four grade pigs of two to three months old, the fifth by a sow and litter, and the sixth by one old sow and two young ones, of the purest Essex blood, the whole three of the imported stock of O. S. Wainwright of Dutchess county, N. Y.—Each of these pens is thirty feet in length, and ten in width, and has at one end a hut made of boards six feet by six, and a long feeding trough at the other. The soil on which these pens are built is sandy. No floor is laid down, but each Saturday the ox cart is put in requisition for half an hour to give the animals an ample supply of fresh straw, which is worked up into manure of the best kind with wonderful celerity. So far, these pens have been found to work well.—How they may answer during the severe winters of this latitude, will be fully known by next spring. Meanwhile we know that one of the best breeders of the Essex and Suffolk hogs in this State, J. S. Tibbits, gives his swine no more protection than these pens will afford, and in fact generally not so much.

### Profits of Stock-Growing.

At no time within the memory of man have wool-growing and the rearing of horses, mules and neat cattle, been so remunerative in this country as they now are; nor is the supply likely to equal the demand for generations to come. All our national habits and customs operate against the systematic improvement of the land. This will render the profits of such as act wisely in the matter of stock husbandry, both large and certain. No one can stop too soon the bad practice of wearing out the land he cultivates. By keeping breeding mares, and raising fine colts, or by keeping sheep, a farmer may easily improve a farm without plowing a tenth part of it.—After the soil is nearly exhausted, the family must still get their bread from it, and, as at the North, live stock will be driven off the premises. When one raises no more corn than the children need, it is easy to see that but few hogs will be fattened on this grain.—Something like this state of things reduced the number of swine nearly two million head from 1840 to 1850, where there ought to have been an increase of a like number.—Similar causes reduced nearly twelve million head of sheep to a fraction over five million.

It is choice cows, sheep, horses and mules that yield the greatest returns to skillful husbandmen. The production of scrubs, or mean stock of any kind, is rather a mean business in a pecuniary point of view. Raise superior animals on rich perennial grasses, if you seek a good income from your farm in stock husbandry. Such animals may obtain part of their living from unimproved old fields, particularly sheep; but they want good clover and pea hay in the winter, or hay made from the English grasses. The most prominent error in stock growing is the attempt to rear fine hogs, cattle and sheep on scanty and defective food. Some want a good deal of meat, milk, or wool, from little or nothing.—They ask nature to make them rich, while they lie in the shade in summer, and sit by the fire in winter, and leave their poor animals to nearly or quite perish from neglect. Give stock the same diligence and care bestowed on a crop of cotton, and the profit will be far greater, because one branch of the business is now pushed rather too far, while the other is sadly neglected. Hence there is more money in growing horses, mules and wool, than in growing our great commercial staple. Let us diversify our agriculture, and learn to make a little labor go a great way by pursuing a system of wise husbandry.—*Field and Fireside.*

### Michigan Chestnuts.

S. D. Barber of Alamo, Kalamazoo county, is engaging chestnuts of his own raising. He planted the seeds fifteen years ago, and the trees have borne fruit for eight years.

### The Corn Crop—The Pork Trade Prospectively.

During the past week we have received information from various localities in the West, regarding the present state of the corn crop, and not a little about hogs. Without going into detail, we will give the points in a brief summary. In this State, except in light sandy soils, the corn crop is much better than was expected a month ago, and, generally speaking, is a full average, taking into consideration the greater breadth of land planted. In light, sandy soil, however, it never recovered from the effects of the drought in July, and in all such cases the yield will not be over half an average; but the quantity of such land is small, and consequently the effect will not be felt.

In Indiana, the crop is excellent, and in all the Wabash country is unusually heavy, the ears being longer and better filled than usual. Indeed we have no complaints from any portion of that State; in all parts, the crop appears to be satisfactory. A good crop of wheat has been sown, and it looks well.

In Illinois, except in a few counties in the northern portion of the State, where it was injured by frost, the crop is fair, in many places good, and in all good rich corn lands heavy. It is not yet fully matured, but the present weather is very favorable, and a large quantity that it was supposed would not mature before the frost would come, is now nearly out of danger, and generally exceeds the expectations of the farmer.

In Iowa, there is considerable variety in the crop. In the northern portion of the State, we hear of the injury done by the frost about the 1st of September, and some represent it serious, whilst others say it was but slight, as the stalk and ears were not injured, only the leaves. We have not heard from this State full enough, as yet, so as to be able to speak of the crop very definitely.

In Missouri, the crop is pretty good; though like Iowa, we have not heard from many points in that State.

In Kentucky, the crop is represented a fair average, and is fully matured, the quality being excellent.

In Virginia, the corn crop, we learn, is a partial failure, and not over two-thirds of last year's crop.

We have no very definite advices from Tennessee, but from what we have, our impression is, the crop is moderately good, though in some places it is short, consequent upon the drought.

In all the places we have heard from, hogs are being generally fed with great care and industry, and it is exceedingly difficult to purchase stock hogs, showing that the owners feel satisfied they are fully able to feed all they have. The reverse was the case at this time last year. In many places the farmers have been feeding with the green corn since the 1st of September. In some parts of Indiana stock hogs are scarce and in demand, as high as 4½¢ gross having been paid for them. There seems to be no speculation going on, and we hear of no contracts being made. The impression is general with the farmers that they will obtain high prices for their hogs, but all those who went in so freely last fall, are now holding off. The indications are, that the number of hogs brought to market will be as great as last year, and that their condition will be far better.

In this market there have been no contracts made, so far as we have heard, though there are buyers for November at \$3.75, and we understand that one party offers \$6; but it is generally supposed that they want them to fill those contracts made at \$6.25 to \$6.75 last season, for delivery the coming November. The present active demand for bacon, and bareness of the market for hams, together with those contracts, it is supposed, will make the market open high, probably \$6, as many think, but the greater majority of dealers are determined to hold back until prices rule at a safer point, and this point is fixed in their minds at \$5 or thereabouts.—*Cincinnati Price Current.*

**The Best Investment.**—Dr. Franklin, speaking of education, says: "If a man empties his purse into his head, no man can take it away from him. An investment of knowledge always pays the best interest."



### Wintering Bees.

[A correspondent of the *American Citizen*, Owosso, gives the following practical directions for wintering bees with safety.]

Having had a little experience in wintering bees, I thought probable a few suggestions might be useful, at least to some. Almost every man that keeps bees has some mode of his own, and in all probability has tried no other way. There are a great many ways bees can be wintered successfully. Some put them in a dry cellar, and some in a bee-house built expressly for wintering them; but as we want to arrive at some plan that will be the least trouble and expense, and as we do not want to expend every winter all that our bees have earned through the summer, we will try to make as little expense as possible.

If we put bees in our cellars they become very restless in warm turns of weather; besides, I find that when they are prevented from flying when warm enough, they discharge their feces on the comb and in a short time are much injured. Then another objection to putting them in the cellar or house is that there is no circulation of air to dry the moisture that will be in and about the hive.

The winter of 1887 and 1888 I put my bees in a house built expressly for wintering, but they needed so much watching in all turns of warm weather that I abandoned the house, and last winter moved my hives all close together, in a row, and then made some frames similar to a gate and thatched them with straw. I made enough of them to put a row back and front of my hives, letting them come together at the top like the ridge of a building, so the hives, when covered up, were in perfect darkness. In this way they wintered finely, but in the spring I found the same difficulty that existed in the house—it was so much trouble to take down and put up my fixtures that my bees were confined to the hives when it would have been better if they could have been out and discharged their feces.

A few things are needed to be remembered in winter management. First—the hives should be set down within six inches of the ground—so that the wind will not blow them over. Second—all the holes or passages from the main body to the chambers, or boxes, should be opened so that the moisture thrown off by the bees in cold weather will arise through the passages to the cap of the cover. The cap or cover should have two or three inch holes bored in it and covered with wire to keep out the mice and let in a current of air which will dry all the moisture that arises in the cap. If you have the old fashioned box hive, with no holes in the top, you can bore from six to eight holes as follows: Get a centre bit that cuts a smooth hole, and bore nearly through, and then with your knife cut the remainder. If you cut on the centre of a comb, all the better, for you can take out a piece of comb about an inch square, and then there will be a passage through the hole between two sections. After your holes are bored it is necessary to make a cap to cover the top of your hives so as to keep out the storm. In the spring you can adjust boxes to your covered hives just as well as to any other, and get as much and as good honey as you can from any of the Patent Bee Machines of the day—besides, you will save your money, instead of throwing it away on useless fixings.

The result of wintering bees with no upward ventilation: In very cold weather, the bees throw off a large quantity of moisture, and if there are no holes in the top of the hive to let it pass off, it must of course be confined to the hive, and in severe weather frost will accumulate—first in the hive, and will increase till it gets possession of nearly all of the comb, and in such condition the bees become wet and chilled and fall down on the bottom board and die. This and no other is the cause of so many valuable stocks being lost every winter. In a number of experiments in wintering that I have tried, I am fully satisfied that upward ventilation is all important. In conclusion, I would say that I have abandoned the house and all other covering except a rough box, which is put over the hive, with a place for the bees to pass in and out when the weather is warm enough for them to do so.

A word of caution: Never disturb your bees in winter unless the weather is quite moderate, and never let the sun strike the hive without the air is warm enough for the bees to fly with safety.

In fine days in winter you may change the bottom board and thus save the bees the trouble of carrying off the dead, besides sometimes the bottom of the comb becomes mouldy, by allowing the dead bees to lay a long time under the hive. I change my bottom boards as follows: I take an extra board,

commence at one end, take out the first and clean it and put it to the next till all are changed.

Last winter I wintered twenty-three swarms—eighteen first rate, five second rate, or part full. I had thirteen new swarms and seven hundred pounds of box Honey. J. B.

### Corn Stalks, their Cure and Management.

We are on the eve of winter, and it is time to look about us and see what should be done before the cold weather sets in. By the time this article reaches your readers, (if it reaches them at all,) the corn crop will either be secured or the necessary steps taken to secure it. The method now, so almost universally adopted, of cutting off the stalks of the corn and husking it from the shock, instead of topping and blading, pulling the ears from the stalk, and husking them at the barn, as was formerly the case, has wrought an almost entire revolution not only in the securing of the corn crop, but in the application of corn stalks to feeding purposes, instead of allowing them to go to waste as formerly. The value of the corn stalk, (or lower portion of the stalk rather,) although it does not rate very highly with some farmers, has still been proven sufficiently great to make it an object worthy of attention. My own experience is decidedly in its favor; and I have been led to think that many of the objections which have been urged against it, are based not upon any actual want of feeding value in the stalk itself, but upon the fact that cattle will not readily consume it. I have only to say that I have never found cattle refuse it, unless it was for three reasons. One was, that they had been supplied with more palatable food, in sufficient abundance to take away the inducement to eat the stalks. A second was, that the fodder or stalks offered them had not been properly cured. A third was, that they had not been presented to the animals in a sufficiently inviting form.

If the first reason was the cause of the refusal, the remedy is apparent, unless the owner is so plentifully supplied with the other, and more palatable provender, as to make the use of the stalks a matter of no importance to him. Happy fellow, if such is the case.

The remedy for the second is as readily explained, though, perhaps, not so easily remedied. The curing of fodder in the field is a very simple operation. The stacking or housing of it, so as to keep it from becoming mouldy and musty, is a matter requiring more attention. Fodder or stalks will cure properly in the shock, unless the season is unusually wet. If, after a few days of dry weather the shock is opened, so as to give the air a chance to circulate through every portion of it, it will be found ready for housing or stacking, requiring only one operation, viz., the cutting off a few inches of the lower or thickest part of the stalk. This portion of the stalk having been in contact with the moist ground, is necessarily not in fit condition for stacking or housing. Besides this, it is perhaps the least nutritious portion of the whole stalk, and may, as I will presently show, be appropriated to fully as valuable purposes in another direction. The cutting off process is a very simple one. A block similar to a butcher's meat block, being provided, a single blow with a sharp, broad-bladed axe is generally sufficient for a bundle when it is ready for putting away, being divested not only of its dampness, but also of the sand and dirt which usually adheres to it. By this means I have been enabled to secure all my stalks from moulding or becoming musty, and my cattle eat them with relish, and I think with profit.

A word on the third part, the manner of preparing it for the animal. Every principle of economy points to the cutting of fodder. To feed stalks uncut, is simply to waste them, as well for food as for manure, for in the first place the cattle will not eat them as readily, and in the second place the uncut stalks are a decided nuisance in the manure heap, when the time for carting the manure to the fields arrives. Every farmer who has loaded manure from a heap on which a large amount of corn stalks have been thrown, from time to time during the winter season, will understand this point. It is exceedingly wasteful in another direction. The thick, pithy stalks absorb a large quantity of the valuable liquid portions of the manure. When the manure is spread, ready for plowing under, we all know how difficult it is to bury these long tough pieces. Few plow-men deem them of sufficient importance to stop the team and throw them where they will be covered, and the consequence is, they are permitted to lie upon the surface, and the valuable liquid manure, which they absorbed so largely, is lost by the exposure to the sun and wind. When cut, (even if the animals will not eat them,)

the smaller size of the pieces not only affords a larger amount of surface for decomposition, but are not in the way, when loading manure from the heap; neither are they so likely to remain unburied as is the case with the larger ones. These smaller pieces also perform another important service. Admitting that their manurial value is but trifling, the mechanical change they effect (in stiff soils particularly) is important. As the corn stalk does not readily decompose, they serve to render the soil to which they are applied more porous, and, consequently, more permeable to the atmosphere, an end which every good farmer should strive to secure.

I had almost forgotten to say that the butts of the stalks, after being cut off, are thrown into a heap at a safe distance from the barn, or other buildings, and at a convenient season are burned. The boys like this part of the business. As soon as the entire heap is consumed, the ashes are collected and covered with soil until the following spring, when they are ready to be applied as manure.—R., in *Farmer and Gardener*.

### Dark Stables.

It cannot be doubted that light exercises a very important influence upon animal as well as upon vegetable economy. Every one's feelings bear witness to the stimulus afforded by its agency; a dark day or a dark room induces lassitude and repose, which is quickly dissipated by the bright sunshine. Many diseases are much more virulent in shaded situations; and the eye especially can not long retain its full power if deprived of light. From mistaken notions on this subject, or from false economy, it is a practice to exclude light from the stables of horses and other animals. It is supposed by many that they thrive best in the dark. Where the animal is stabled for a brief period of rest, darkness will undoubtedly favor his repose. In the season when flies are troublesome it also may be well to darken the stable to exclude them, but when animals are stabled permanently in darkness, they cannot but suffer in various ways. The horse, especially, is very much subject to diseases of the eye, and there can be but little doubt that this tendency is increased by confining him permanently where the eye, in waking hours, is strained to an unnatural position to perceive objects around him. Horse jockeys find an advantage in the use of such stables. The animal being brought into the glare of day is confused and startled, and by his high stepping and half uncertain manner, impresses a novice with an idea of his spirit and action. Even if the quiet induced by darkness may favor increase of fat, it is not conducive to muscular strength. Muscles deprived of the stimulus of light become flaccid, and the apparently high condition induced by this means is soon lost by active exertion. Men whose employments confine them to poorly lighted apartments soon lose the color and energy of full health, and the same results follow similar treatment of animals.

Besides this, a dark stable will seldom be kept in that cleanly condition which favors full health. The "corners" will be neglected, especially if the care of animals be entrusted to the "help" who are usually content if the stable looks nice. When building stables, ample provision for light will cost but little more than imperfect fixtures, and in the end will be found more profitable.

### A Crack in the Hog-Trough.

Some time ago a friend sent me word that he gave, every day, nearly twenty pails of butter-milk to a lot of shoats, and they scarcely improved a bit on it. Thinks I, this is a breed of hogs worth seeing—they must be of the sheet iron kind; and so I called on him, heard him repeat the mournful tale, and then visited the sty. In order to get a closer view of the miraculous swine, I went into the pen and, on close examination, found a crack in the trough, through which much of the contents ran away under the floor.

Thinks I, here is the type of much of the failures and misfortunes of our agricultural brethren. When I see a farmer omitting all improvements because of a little cost, selling all his good farm stock to buy bank, or railroad, or mortgage stock, robbing himself and heirs, thinks I, my friend, you have a crack in your hog-trough.

When I see a farmer subscribing for half a dozen political and miscellaneous papers, and spending all his leisure reading them, while he don't read a single agricultural or horticultural journal—thinks I to myself, poor man, you have got a large and wide crack in your hog-trough.

When I see a farmer attending to all the political conventions, and coming down liberally with the dust on all caucus occasions,

knowing every man who votes his ticket; and yet to save his neck, couldn't tell who is President of the County Agricultural Society, or where the Fair was held last year, I "unanimously" come to the conclusion that the poor soul has got a crack in his hog-trough.

When I see a farmer buying guano, but wasting ashes and hen-manure, trying all sorts of experiments except intellectual hard work and economy; getting the choicest seeds, regardless of cultivation and good sense; growing the variety of fruit called "Sour Tart Seedling," and sweetening it with sugar, pound for pound, keeping the front field rich and neat, while the back lots are overgrown with elder, briars, snap-dragon, and thistle, contributing liberally to the Choctaw Indian Fund, and never giving a cent to any Agricultural Society—such a man, I will give a written guarantee, has got a crack both in his head and in his hog-trough.

When I see a farmer spending his time traveling and visiting in a carriage, when he has to sell his corn to pay his hired help, and his hogs are so lean that they have to lean against the fence to sustain themselves while squealing, I rather lean to the conclusion that somebody that stays at home will have a lien on the farm, and some time the bottom will come entirely out of the hog-trough.—Orange Co. Farmer.

### Northern Michigan—Gratiot County.

No part of our State for the last few years has been improving more rapidly than the Northern counties, Sanilac, Tuscola, Saginaw, Midland, Gratiot, and others in that range and along through the Grand Traverse region, and bordering on the shore of Lake Michigan. In all the counties mentioned are papers published, and public improvements being carried on with great zeal and spirit, considering the drawbacks they have had to contend with, in the shape of floods, and drouths, and frosts and famine, added to the distance from market, and all the other inconveniences incident to the settlement of a new country. We have before us a late number of the *Gratiot News*, now in its second year, published at Ithica, Gratiot county, in which is an interesting chapter, relating the incidents of the early settlement of that county, from which we quote the following summary of its present condition:

"The wheat sown in the Fall of 1858 escaped destruction from the June frosts, so destructive in Northern Ohio, New York and Pennsylvania, and an average crop of at least 20 bushels per acre rewarded the labors of the farmer. The drouth which has so effected the entire State, has also left with us its mark. Meadows are light—potatoes scarce and small, while corn was mostly cut down by the August frost which extended over the entire State, but with the large amounts sown and planted we shall have a bountiful supply to last us until another harvest.

Three years since we were emphatically in the wilderness, without roads, bridges, cross-ways, or clearings sufficiently large to raise bread stuffs for ourselves—to-day nearly every quarter section has from 40 to 80 acres cleared and ready for crops.

We have roads cut out and crosswayed that during a great portion of the year are passable. Our residences though not displaying that perfection of mechanical skill and taste, so common in older countries, have all the appliances of comfort—all the necessities for good health.

Our different Townships are well formed into School districts, good School Houses are constructed, and good schools sustained.—Religious Societies have sprung up in our midst and have thus far been well sustained.

There is a pure moral tone to Society that is seldom met with in older societies, when by policy party churches are sustained—where little sins are winked at, among a class to offend whom would be dangerous to church interests.

We have the foundation of a good country and the superstructure formed. All the luxuries, comforts, advantages, and delights of an old settled country are now at hand; but a few years more of toil and they are ours.—The harvest has past—the struggling with nature's rich growth of timber is over, the labor and expenses of building School Houses, Roads, &c., is well nigh completed.

Our growth thus far, though under the most unpropitious of seasons has been unparalleled in the annals of western settlements.

In view of the facts of our settlement having been forced upon us, without any preparation; driven as it were into the woods to subsist as best we might, and having through the four years' effort been visited with seasons that have caused even the cry of famine in old settled portions of our country—and in

view of the amount of lands now in condition for crops, we certainly need feel no danger from starvation. After the struggle through which we have passed, having the best native soil in the west, and having all the appliances of an old country within our grasp, none need be discouraged—the past and present promise us a bright future, a noble reward for the toils and sufferings now over."

### Coal and Health.

During the season of summer, when the atmosphere is warm and balmy, the cheerful breezes have free scope to dance through all our apartments, and ventilation is effected upon natural and conclusive principles. The time, however, is at hand, with the approach of cold weather, when doors and windows must be closed to shut out the piercing wind, and when fires must be maintained in all dwellings to heat our sensitive frames. This is the season when means should be adopted for securing the requisite amount of the pure air of heaven, under all the circumstances of artificial heating, in every dwelling—public and private.

The importance of ventilation is generally recognized, as the evils that have been caused by dwelling in ill ventilated apartments have been set forth in various publications. There are some facts, however, connected with this question, which are not so well understood. Thus, many persons mistake warm for pure air; hence they do not make a distinction between the two, and do not seem satisfied that a room is habitable until they have expelled all the warm air from it. There can be no question, we believe, about the salubrity of warm dwellings in cold weather, if the air in them is only maintained in a pure condition. The circulation of air in a room is dependent upon the heat which is generated in fires, grates, stoves or heaters. The hot air expands rises and seeks vent, and the cold air rushes in to supply its place. The grand secret of good ventilation, therefore, is a plentiful supply of fuel—an important fact too generally overlooked. The houses of the poor are kept close and ill-conditioned in cold weather, because the inmates cannot provide sufficient fuel for their wants. Coal is as much an article of life and health, in the winter season, as food, and yet how few think of this! In those churches, schools and other public buildings, where fuel is saved at the expense of an inefficient supply of fresh air, a cent-wise and dollar-foolish economy prevails; and this is the principle idea we wish to impress upon the public mind at this time.—Arrangements for ventilation may be made in endless variety; but without an abundant supply of fuel, neither comfort nor proper ventilation will be secured. Fuel is to ventilation, in cold weather, what steam is to an engine—its governing power.—*Scientific American*.

### Hints about Draining.

The following hints are taken from the remarks of a "Practical Tile-Maker," in the *Country Gentleman*, and may be applied to John Daines' machine, with good effect:

1. Fall and winter are the proper times to start tile works, for those who wait until spring lose the best part of the season in preparing. Those who prepare in winter can take advantage of getting lumber and putting up fixtures, digging clays, &c. Clay should by all means be dug as soon as hard freezing begins; being acted upon by frost, it works full one-half easier. This is done by beginning on one side of a clay-bank and digging and throwing up so that which is thrown up during the day will freeze during the night.

2. Those who manufacture tile machines do not keep many on hand, and by waiting until spring to order a machine, many have to wait a month or more to have one made.

3. Those who are ready in the spring can have tile for spring use, and the profits on the spring trade will go far towards paying for machines and fixtures.

### Cutting Feed.

The New Jersey *Farmer* illustrates the economy of cutting feed for cattle in a few words: "If a farmer has no fodder to be disposed of, except fine, 'merchantable hay,' there will be little need of cutting it. But most persons have corn-stalks, hay and straw a little damaged, which, if fed out unprepared, would be much wasted. Now a careful farmer would run this through a straw-cutter, then mix with a little meal and moistened, and it will be a vastly more palatable dish, little or none will be wasted, and what is eaten will be well digested. Our good housewives hash up odds and ends of meat, to save them, and to make them more acceptable to their families.—why should not the same principle of economy rule in the farmer's barn?"



## The Garden &amp; Orchard.

## The White Wood or Tulip Tree.

The tulip tree, or white wood, is one of the most magnificent trees of the wood, and whoever has seen it in its favorite haunts, in deep alluvial soils or rich valleys, will carry with him forever the image of its stateliness and grandeur. It belongs to the same natural order as the magnolias, has some of their characteristics, and is much more widely distributed. While it is found in company, and towering above the tallest of them in the bottom lands of Mississippi and Alabama, it is also found several hundred miles beyond their northernmost limit. The magnolias do not grow naturally near the sea, even in latitudes where they flourish, while the white woods press down to the shore, and bathe their foliage in the breezes and fogs that come in from the ocean. This tree is not uncommon in all parts of this State, and is found in considerable quantities in the shore counties. It grows to a height of eighty or ninety feet among us, and much higher in the West and South. The elder Michaux mentions several in Kentucky fifteen and sixteen feet in girth; and his son confirms the measurement of one near Louisville twenty-two and a half feet in circumference, and one hundred and thirty feet in height. In Mississippi they attain like magnificent proportions.

We have no leaf in the forest so striking in form, and so rich and glossy as this. It is worthy of the eulogium pronounced upon it by Downing in his article on "shade trees in cities," among the last, if not the very last he ever penned for the *Horticulturist*: "The most beautiful and stately of all trees for an avenue, and especially for an avenue street in town, is an American tree, that we rarely see planted in America, never that we remember in any public street. We mean the tulip or Liriodendron. What more beautiful than its trunk, finely proportioned, and smooth as a Grecian column? What more artistic than its leaf—cut like an Arabesque in a Moorish palace? What more clean and luxurious than its tufts of foliage—dark green, and rich as deepest emerald? What more lily-like and specious than its blossoms—golden and bronze-shaded, and what fairer and more queenly than its whole figure—stately and regal as that of Zenobia? For a park tree to spread on every side, it is unrivalled, growing a hundred and thirty feet high, and spreading into the finest symmetry of outline. For a street tree, its columnar stem, beautiful either with or without branches, with a low head or a high head, foliage over the second story or under it, is precisely what is most needed. A very spreading tree, like the elm, is always somewhat out of place in town, because its natural habit is to spread itself laterally. A tree with the natural habit of the tulip, lifts itself into the finest pyramids of foliage exactly suited to the usual width of town streets, and thus embellishes and shades without darkening and encumbering them. Besides this, the foliage of the tulip tree is as clean and fresh at all times as the bonnet of a fair young quakeress, and no insect mars the purity of its rich foliage."—*Homestead*.

## The Lawton Blackberry.

In the proceedings of the Cincinnati Horticultural Society, we note the following remarks on the Lawton Blackberry by those who have tried it: "Mr. Sanford complained that his Lawton or New Rochelle Blackberries had not done so well as he expected this season, although his land was both drained and trenched; but he had not cut his plants back, consequently the severe drouth had a greatly injurious effect upon them."

Mr. D. B. Pierson observed that his Lawtons were doing well on the same kind of prepared ground; but he had cut them back.

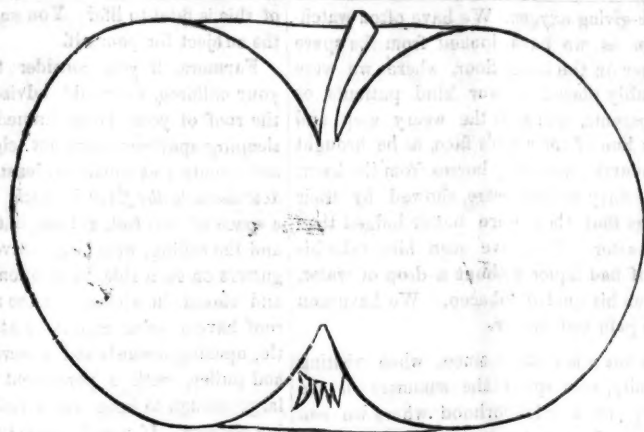
Dr. Warder stated that he had them on a poor, hard-pan soil; they had been pruned back. The bulk of the crop was gone ten days ago, but he had still some magnificent berries, while the wild crop had failed very much from the extreme dryness of the weather, etc. The last of the Lawtons were as good as the first.

Mr. Addis said that his Lawtons had produced excellently, on not very good ground, neither drained nor trenched. He had them fine for nearly three weeks, and the chief trouble had been to keep the fruit gourmands off.

Mr. Heaver was convinced of the importance of shortening in, and so reducing the productiveness of this fruit. Its earliness was a great recommendation, on account of our dry weather setting in soon in the summer—and in that case the fruit would often get the start of it.

Mr. Howarth knew that these blackberries were difficult to transplant; but he knew of plenty, on a poor soil, full of fruit. They had been cut back to one foot. They could not be surpassed for size and uniformity of berries. There were no small "nubbins" among them."

Quite a Farm.—The whole amount of the public land surveys, as returned to the General Land Office, for the year ending with the last month, is 53,000 miles, or about fifteen million acres, nearly equal to the whole extent of New England.



SHIAWASSEE BEAUTY.

Above medium in size, oblate, much depressed, angular, skin whitish shaded, marbled, splashed and striped with rich crimson and moderately sprinkled with light dots; stalk rather short and small inserted in a large uneven cavity; calyx closed, segments erect, sometimes a little recurved; basin large, open, slightly furrowed; flesh of snowy whiteness, very tender, juicy, with a brisk, refreshing, sub-acid flavor; quality "very good."

## A Michigan Seedling.

SHIAWASSEE BEAUTY.

This exceedingly beautiful apple was first brought to the notice of the writer last November, through the medium of J. T. Elliot, Esq., of Grand Rapids, from whom he received a few specimens of the fruit at that time. He is, also, this season, indebted to Marvin Wilcox, Esq., of Gaines' Station, Genesee county, Mich., for another lot of the fruit; specimens of which were sent to Mr. Charles Downing, of Newburgh, N. Y., author of the Revised "Fruit Trees of America," who, at the writer's request, has furnished the above outline and description for the *FARMER*.

This fruit originated from the pomace of a lot of grafted fruit, grown in Avon, Oakland county, the seeds from which were planted in a nursery in Gaines, Genesee county. A portion of the trees grown from them were sold, ungrafted, to Mr. Beebe Truesdell, deceased, who planted them in Vernon, Shiawassee Co. Among these was the original tree of this variety, which has now borne full and regular crops for more than ten years, with the exception of two seasons, when the crop was thinned by frost.

The only grafts yet in bearing, of this variety, are those of Mr. Wilcox; although it has been considerably disseminated, in the vicinity, during the past two or three years.—It is locally known as "Nonesuch;" but, as this name is already applied to several other fruits, at the suggestion of the writer, Mr. Wilcox has applied the name at the head of this article—a name eminently appropriate for so beautiful a fruit.

In texture, juiciness, and flavor, as well as in the beautiful whiteness of its flesh, it is much like the well known Snow Apple, from which, when the skin is removed, it is hardly possible to distinguish it; and, as it seems to be free from the faults of that variety, it may prove a desirable substitute for it. The tree is a strong, rather upright grower, until the branches become borne down with the weight of the fruit. The fruit matures in November, and may be kept till February.

The specimens sent to the writer, this season, were picked early, and prematurely ripened. Doubtless, from this cause, they were less finely colored than those sent last year; and, if memory can be relied on, in such a matter, they are thought less rich in flavor.—For these reasons they may be expected to improve upon further acquaintance.

T. T. LYON.

Plymouth, October 24th, 1859.

## The Science of Gardening.

THE STEM AND BRANCHES.

(Continued from page 355.)

Immediately beneath the bark is situated the wood, which forms the chief bulk of trees and shrubs. In all exogens it is formed of concentric layers, one of which at least is added annually. These layers are formed of a tissue of longitudinal fibres resembling network, the interstices of which are filled up with soluble matter, differing in each vegetable genus, but closely resembling its parenchyma. The layer immediately in contact with the bark is the softest and palest in color, and thence is called the *alburnum*. It is in this that the vessels which convey the sap from the roots to the leaves are chiefly situated. This layer is annually renewed, that of the previous year becoming more complete wood. Although the chief part of the sap vessels, as just observed, is situated in the *alburnum*, yet others, though more scantily, are dispersed through other parts of the wood. Wherever situated, they extend from the minutest root to the leaves.

In some trees, and especially in those which are not very hard, the line of demarcation of the wood and *alburnum* is hardly perceptible; we see this in the Poplar, the Willow, the Chestnut, the Bombax, &c.; on the contrary, in hard woods, this line is readily distinguish-

ed by the hardness and color of the organs; thus, in the Ebony, the wood is, as every one knows, perfectly black, whilst the *alburnum* is white; in *Cercis siliquastrum* the wood is yellow and the *alburnum* white; in *Phillyrea* the wood is brownish yellow, the *alburnum* white; but in this last species the perfect wood is only found in very old trees; and as many as fifty layers of the *alburnum* were remarked by De Candolle in *Phillyreas* about 200 years old.

The relation of the thickness of the *alburnum* to the wood varies in different species and different individuals, not only from the preceding causes, but, moreover, from the age of the tree: Thus, the *alburnum* is equal to the wood in an oak six inches in diameter; it is as two to seven in a trunk of a foot; as one to nine in one of two feet, &c.; still these proportions given by Duhamel are very variable. Mustel has observed that different parts of the same layer of the *alburnum* may be transformed into perfect wood at different periods; thus, he has seen some oaks which had, on one side, fourteen layers of the *alburnum*, on the other, twenty; or, on one side seven, on the other twenty-two, &c.—The layers of the *alburnum* are almost always thicker on the side where they are less numerous; that is to say, in other terms, that when a root meets a good stratum of earth, it nourishes the corresponding part of the tree more abundantly. Those parts which are most nourished have the woody layers thicker, and they arrive more quickly to the state of perfect wood, whilst the roots which fall in with poor strata badly nourish the corresponding parts; and, consequently, these have the layers thinner, and they remain a longer time before they attain their complete hardness.

All workmen know very well that the *alburnum* is less solid than the wood, and take care to separate it from the latter when they use it for building purposes, &c. Buffon, who performed with Duhamel some important experiments upon this subject, found that in the Oak the difference of solidity of the *alburnum* and the wood, is as six to seven. But the principal cause for which the *alburnum* is carefully rejected from the wood in building is that on account of its looser tissue it is more liable than the latter to be affected by moisture, worms and insects. We often find stakes placed in wet situations, with the *alburnum* either entirely decayed, or perceptibly changed, while the wood is still very sound.—(A. De Candolle's *Organography*.)

The idea that the annular layer of wood is rendered more dense and firm by severe winters is denied by reason, and demonstrated to be false by actual observation. The layers are thickest on those sides of a tree where the largest roots and branches occur, and are throughout of a greater size in such years as afford the most genial period to vegetation.

Each of the woody layers is, during its first year, a kind of very elongated cone, which surrounds the pith, and which is prolonged at the base in such a manner as to cover over the cone of the first year; and thus cone after cone is formed in succession, until the destruction of the trunk. It evidently results from this, that each cone, or woody layer, only increases during the first year of its life; and that it is afterwards covered over by subsequent cones, and is, as it were, shut up by them in such a manner as not to be able to lengthen or thicken any more; it remains, after some years, in an almost passive state, and does not seem any longer to form part of the living organs of the plant. It results from this state of things, that the woody layers serve successively as coverings to each other; and if one of them has received any injury—as, by the action of frost, having letters cut in its tissue, or cavities hollowed out in its thickness, having nails driven into it, &c.—all these injuries, covered by subsequent layers,

may be again found after any number of years; experiments have demonstrated this, and it serves to explain several facts to which marvellous ideas would be attached. Thus the layers of the *alburnum*, being full of sap, are liable to be frozen when the cold is very intense. When this accident takes place, and the frost does not reach the liber and the *alburnum*, the tree continues to live; the frozen layer is covered over by a sound one—afterwards by several others; and thus covered, it is found in the centre of trees; this accident is named in French, *Gelivure*. We can, by counting the number of layers formed since the accident took place, show in what year it happened. Thus, in 1800, M. De Candolle had cut down in the forest of Fontainebleau, a trunk of a Juniper (*Juniperus communis*), which was found to present, near its centre, a layer which had been affected by frost, covered over by ninety-one woody layers, and which dated therefore, from the severe winter of 1709.

An inscription written upon the trunk of a tree, and which penetrates to the *alburnum* is covered over by the new woody layers and may be found entire as long as that part of the trunk remains so. It was thus that Reisel found, in 1675, some capital letters in the middle of a Beech; that Mayer, in 1688, found in the woody body of a Beech a kind of sculpture representing a gallows, and a person hanging; that Albrecht, in 1697, found in the same tree the letter H, surmounted by a cross; that Adami found, under nineteen layers of the *alburnum*, the letters J. C. H. M. It is thus that in certain trees in India there have been found inscriptions in the Portuguese language, which had been written there some centuries before, when the country was discovered by these navigators. It is thus that different spots, or regular stars, have been artificially formed in the middle of several trees. Two Memoires by Fougereux de Bondaroy, inserted among those of the Academie de Paris for 1777, may be particularly consulted upon this subject.

When any accidental cause, as the hand of man, the teeth of animals, or simply a morbid change, hollows out a cavity in the *alburnum*, the orifice of which is sufficiently narrow to be covered by the subsequent woody layers, the cavity is preserved entire, as well as any object shut up in it. De Candolle found in the middle of a large piece of Oak, which appeared perfectly sound, a cavity partly filled with nuts and acorns, which had probably been carried there by dormice or squirrels before it was covered over by new woody layers. In the same manner bones, stones, &c., are found in similar cavities.

When a nail is driven into a tree, so as to reach the *alburnum*, it remains fixed, and, by degrees, the new woody layers which are formed around it surround its base, so that it appears as if it had been driven into them; sooner or later it is entirely covered over: it is thus that we find nails and other instruments, or the horns of stags, infixed, or completely sunk, in the wood of exogenous trees. It is by the same process that the base of the Mistletoe appears each year to sink into the tree, because the woody layers rise up around it.—(A. De Candolle's *Organography*.)

Wood is consolidated fastest in those plants which are most freely exposed to the influence of light and air, and those plants grow in height the slowest. This teaches a lesson to the gardener he often may remember with advantage; for it is often desirable to have specimens of the same shrub, varying in height; and he may often increase their stature, yet preserve them in health, by keeping them in a moist shaded locality, during the early stages of growth; and he may as certainly render them more dwarf, by exposing them to a drier, and the brightest atmosphere that they will healthily endure, and he can command. By the former treatment we have seen Heliotropes clustering round the pillars of a conservatory to the height of fifteen feet.

From the extension of the woody fibre being greater and longer continued on one side of a stem or branch than on its opposite side, it frequently becomes contorted. Gardeners usually endeavor to remedy this by making an incision on the inner side of the curvature, and then employing force to restore it to a rectilinear form, causing a gaping wound, and mostly failing to attain the object. If the incision be made on the outer side of the curve, thus dividing the woody fibres that continue to elongate most rapidly, the branch or stem, with but slight assistance, will recover its due form, and there will be no open wound.

From the fact that there is invariably more woody matter deposited on the side of a stem or branch which is most exposed to the air and light, gardeners have explained to them why those sides of their trained trees which

are nearest the wall, ripen, as they term it, most slowly; and are benefited by being loosened from the wall so soon as they are relieved from their fruit. If they require any demonstration that this explanation is correct, they need only examine the trees in clumps and avenues; their external sides will be found to enlarge much more rapidly than their internal or most shaded sides.

Although the sap rises chiefly through the *alburnum*, yet it is not at all certain that the interior wood has become entirely inert. Indeed, the facts of its long continuing to increase in density, to change its color, and to retain much both of liquid and gaseous matters, are evidences to the contrary.

These gaseous substances, according to Boucherie, are in some cases equal in bulk to one-twentieth part of the entire trunk of the tree in which they exist. They, probably, move upward along with the sap, and are more or less completely discharged into the atmosphere through the pores of the leaves. That these gaseous substances not only differ in quantity, but in kind also with the age and species of the tree, but with the season of the year, may be considered as almost amounting to a proof that they have not been inhaled directly by the roots, but are the result of chemical decompositions which have taken place in the stem, as the sap mounted upwards towards the leaves.

(To be continued.)

## HORTICULTURAL NOTES.

## Use of Muck for Mulching.

Last winter I caused muck, fresh from the swamp, to be drawn upon ground occupied by pear trees, and by raspberry and blackberry plants. In the spring, the muck having become quite friable, was spread over the surface, forming a mulch of perhaps one half inch in thickness, and proving a complete protection, during the drouth which has prevailed here for a few weeks past; while the ground adjoining seemed to have been entirely dry for several inches below the surface, the grounds thus treated presented such an appearance in no degree whatever.

I propose in the fall, to manure these trees and plants by digging in the mulch, which will then have become completely pulverized, and next winter to begin a renewal of the treatment which I have related; that is, draw on more fresh muck, spread it in the summer for a mulch, dig it under in the fall for manuring. Why would not this treatment be proper for strawberries and all garden vegetables where stimulating manures are not desirable? An occasional dressing of ashes would probably render the muck efficient manure.—F. S. Root, in *Horticulturist*.

## Ringing the Grape Vine.

Of two Isabella vines growing upon the same trellis, after the blossoms were well expanded, of the one a ring of bark was removed from a branch containing three bunches. These bunches ripened in July, were of unusually large size as to their berries, and of remarkable sweetness, for the variety, and I am greatly pleased with the result of the experiment. The other vine I intended to take out this fall, as they are getting too crowded on the trellis. Accordingly, I took off a ring from the body of the vine at the same time the operation was performed on the branch of its neighbor. The operation had no beneficial effect whatever.—The grapes are no earlier and no larger. Now, is this an ordinary or extraordinary result? Did stopping the downward flow of the entire sap of the vine at that point so weaken or check the growth of the vine at the root and stem below the ring, that the nourishment of the upper part was not really increased, and the beneficial results expected were thus entirely lost? For the future I am disposed to ring so few bunches on each vine that its general growth and vigor will not be affected. I expected the vine would be sacrificed, but did not expect the beneficial effect of the operation to be thus counteracted. Does the experience of any of your readers correspond with mine, or is this an exceptional case?—Wm. N. White, of Athens, Ga., in *Horticulturist*.

## New Gladioli.

The Gladioli are destined to become the flower for the million. Their simple culture, and their magnificent flowers will render them universal favorites. The improvement in the flowers is truly wonderful; there seems to be no limit to their spontaneity. The new varieties of the present year surpass all previous ones, as beautiful as they were. Tints and colors known only in the orchids are represented in the new Gladioli. From the old orange and yellow, we first had deep red and crimson, then pink and rose colors; next buff and fawn, and now straw and pale yellow; all being more or less streaked or spotted. We have already briefly described many varieties, and intend ere long to give a more complete account of them. We now name the following new varieties as extremely beautiful: Canari, straw color; Ophir, yellow, spotted; Napoleon III, scarlet; Calypso, black and pink; Clemence Souchet, black, striped with lake; Due de Malakoff, crimson, with white throat; Comte de Moray, crimson, with white throat; Premices de Montrouge, scarlet crimson; Vellida, black, with carmine spots; Madame de Vaux, black, with crimson streaks; Othello, dark, Eugene Verdier, white, with carmine throat.

Planted out in May, in good rich soil, they bloom through August, and are only equalled among summer flowering bulbs by the Japan lilies. In autumn the bulbs should be taken up and wintered in any dry place where the frost will not reach them.—Hovey's *Magazine*.

Tobacco Crops in Massachusetts.—Elihu Baldwin, of East Whately, Mass., raised during the past season, twenty-nine hundred pounds of tobacco from one acre of land. Paoli Lathrop, of South Hadley, Mass., raised sixty-seven hundred pounds from three acres, which he sold for \$1150.



## FOREIGN AGRICULTURE.

## Results of the Harvest in France.

FROM THE LONDON FARMER'S MAGAZINE.

The results of the harvest in France are by no means matter of little interest to the farmers of the United Kingdom. On the other hand, the proximity of the two countries and the commercial relations existing between them, render the question of a good or a bad crop in France an important matter with us all; and this importance is heightened by the inequality of the laws regulating the importation of grain. For whilst we admit it at all times and seasons at a nominal duty, the old sliding-scale is again in full operation in France; and at this time acts as a prohibition, the price, in defiance of the law, being low enough to ensure a duty that bars all importation.

As was the case in England, the harvest in France occurred this year from a fortnight to three weeks earlier than usual, but the unprecedented scarcity of hands prevented the farmers from beginning as early as they could have wished. It has been a practice of the French Government, through the Minister of War, to authorize the generals commanding in the several departments to place a certain number of the troops at the disposal of the farmers who may require them. This year, owing to the war in Italy and the threatening appearance of things in Germany, they were deprived of this source until the harvest was nearly finished. Another means, however, was afforded for relieving the labour market, to a certain extent, in the large number of Austrian prisoners, who, by an official decree of the 6th of May, authorized the police to cause the men to be employed in agricultural and manufacturing employments, under certain regulations, obligatory both upon the farmers and the employed; securing to the latter a supply of the necessaries of life, but also effectually preventing them from making their escape. It also fixes their pay, in addition to their board, at not less than 40 centimes (4d English) per day.

Still, notwithstanding this new resource, the harvest dragged on heavily, and a great deal of the corn was shelled and lost for want of being cut in the proper time. In addition to this, the storms had been heavy and general, and the corn was lodged in every direction, making the cutting still more difficult and tedious; whilst the excessive heat and the burning sun had prematurely ripened the grain, and thus deteriorated the quality, as well as lessened the yield. The bulk of the wheat in the number of sheaves, was larger than usual; but they were found to be light in hand, and far from promising an average yield; and the apprehensions entertained were confirmed by the test of the flail or threshing machines in several districts. In Saône-et-Loire, l'Aisne, and l'Oise, it was found, on threshing, that the deficiency amounted to one-third of the average, whilst the grain itself showed a marked inferiority in quality to that of the average of years, owing to the two causes we have mentioned above; and this applies as well to the north as to the south of France, the three departments we have named belonging to the north. The south, however, was, if anything, in a worse condition still, the drought and heat having been much more severe there. The lightness of the grain will reduce the quantity of flour produced from it at least by four pounds per bushel, which upon the average crop of France (25,000,000 qrs.) amounts to nearly 1,700,000 sacks of flour. The deficiency in the crop of wheat, if it amounts to one-third (8,333,333 qrs.) is a more serious affair.

In a letter addressed to the "Journal of Practical Agriculture" (French) by M. Loonce de Lavergne, on the "Good and Bad Harvests," the writer gives the following statement of the wheat crops in France in twelve years:

1846	80 million hectolitres, or	20,624,000 qrs.
1847	97	24,250,000 "
1848	58	14,500,000 "
1849	80	20,250,000 "
1850	80	20,250,000 "
1851	88	22,000,000 "
1852	88	22,000,000 "
1853	68	17,000,000 "
1854	97	24,250,000 "
1855	78	19,500,000 "
1856	85	21,250,000 "
1857	110	27,500,000 "

Average.....29,312,834 " This gives an average of nearly 30 million quarters of wheat per annum; but it is probably exaggerated, as most of such estimates are. What the writer endeavors to impress on the public mind is the enormous difference between a good and bad harvest, the latter still more aggravated by the necessity of abstracting from it the same quantity of seed wheat for the ensuing crop as from the former. This he estimates at 13 million hectolitres, or 4,470,700 qrs. The deficient har-

vests of 1853 and 1855 produced a scarcity, amounting to a famine, in the south and centre of France; and this was hardly made up by the superabundance of the crop of 1857, which, when the seed-wheat was deducted from each crop, was nearly double that of 1853, as thus—

1853	68,000,000	1857	110,000,000
Seed	18,000,000	Seed	18,000,000
	50,000,000		92,000,000

It was chiefly owing, however, to a large increase of wheat culture that the crop of 1857 proved so much greater than the average.—This was stimulated by the previous high price, and it was said to have amounted to 383,000 hectares (936,000 acres.) Still the yield that year was unprecedentedly large, and followed as it was by a full average in 1858, has left a large surplus on hand, which will probably prevent prices from rising in that country to any considerable extent until the spring of next year, when the deficiency of the late crop will begin to be felt.

It was unfortunate for the French farmers that the trial of reaping machines at Foulleuse took place at so late a period; but their success has been hailed with great satisfaction. It is probable that every farmer who can spare the money, or whose occupation is large enough to warrant the outlay, will, before another season, furnish himself with one of these machines, which are, beyond all doubt, the most economical and useful that have ever been invented. But not only in France has the want of hands for harvest-work been felt; it has been equally so in England, and in future no farmer ought to neglect supplying himself with the means of remedying the deficiency. We believe that the loss to the farmer, from the corn remaining uncut after it was ripe, was very great, probably amounting to more than was required for seed for the ensuing crop. Reaping and mowing are the most arduous and laborious of the harvest operations, as well as the most tedious and expensive; and a machine that will supersede hand labor in their performance, ought to be hailed with joy by both master and man. The latter will find his labor lightened and the period of harvest shortened by the American reaper; whilst, in addition to these advantages, the farmer will have the satisfaction of being able to secure his crops at the proper time with the ordinary staff of the farm.

Recurring again to the harvest in France, M. Barral, after stating the results of thirty-five districts, says: "In recapitulation, the advices of the state of the crops are not generally unsatisfactory. The wheats being much laid by the storms, will not yield an average return. The sheaves are numerous, but very light. Almost everywhere the hay harvest is abundant; the oats are fine; the potatoes generally diseased; the colza various; the clovers good; the linseed perfect; the beet-root promising; the vines loaded with fruit in the north, but deficient in the south; the fruit trees will yield nothing."

## Sleeping Rooms in Farm Houses.

FROM THE SCOTSMAN, BY DR. DIXON.

Our professional pursuits for years have frequently led us to visit the abodes of the farmers in the nearer States, and we have been shocked at the general ignorance and melancholy consequences of the almost universal method of constructing the sleeping rooms of farm-houses. With the very rare exceptions among the old-fashioned square houses, chiefly built forty years ago or more, nearly all of them are either one and a half, or two and a half stories high; the half story being used for sleeping-rooms, constructed by a wretched economy directly under the most depending part of the roof, which very often actually meets the floor, and for light and air there is only a sash of four small panes, one in each end room. But often you will not find even that wretched method of getting clear of the carbonic acid gas expired by the sleeper. Most of the more pretending and extensive farm-houses have the old dormer window in the roof itself, allowing no possible way to get clear of it. It is heavier than the atmosphere, and the sleeper must breathe it over and over again.

The horrible consequences of the sleeping rooms of the young farmers throughout this vast country, are truly deplorable. Were it not for the stimulus of the air he is obliged to inhale during his field labor, he would not live out half his days; he must, and we know he often is, obliged to get up nervous and muscular force enough to get to work in the morning, by the aid of spirituous liquor; this his natural sleep in a healthful atmosphere would have insured him; but the stupefying influence of the carbonic acid and his darling solace tobacco, on his nerves and muscles, prevents it, till he has whipped up the sluggish blood-vessels to drive their half-poisoned blood through his lungs, that it might absorb

the life-giving oxygen. We have often watched him as we have looked from the spare chamber on the lower floor, where we were hospitably placed by our kind patients or their parents, and seen the weary step and sullen hue of their son's face, as he brought the uncurried and dirty horses from the barn; which, dirty as they were, showed by their friskings that they were better lodged than their master. We have seen him take his dram of bad liquor without a drop of water, and then his quid of tobacco. We have seen it with pain and sorrow.

It is but a few days since, when visiting our family, who spend the summers in the country, in a neighborhood where we can look around us, and contemplate both varieties of the houses we have described, we heard the following highly illustrative anecdote:—A lady, with her husband and child, who were boarding at the same hotel with our own family, retired to their small sleeping room, not large enough for one person. The child was ill and they very unwisely resolved to burn a lamp, thereby consuming the amount of oxygen required by another person. How long they slept we did not learn, but one of them awoke with a sense of suffocation, and, on arousing the other, found every thing in the room, faces, hair, bed-clothes and furniture, completely covered by the particles of carbon, which the close atmosphere of the room, the window being partially closed, had not afforded oxygen enough to consume in burning a large wick. They were very much alarmed, and afforded great diversion to themselves and others, by the morning narration of the bathing, washing, and scrubbing necessary to make themselves presentable at the breakfast table; and yet for weeks these excellent and amiable people had been inhaling their own carbonic acid, because the room was really only large enough for one person. We ourselves occupied a similar one alone, and found it barely sufficient to permit sleep without a morning headache. They were alarmed, and thought they narrowly escaped suffocation, because the particles of carbon were visible to the eye; yet the same result, only more insidiously, follows the constant respiration of carbonic acid thrown off by the lungs, for this, being heavier than the ordinary atmosphere, can not rise and escape as fast as it is produced by three persons, in a small room with the door closed; for there is no current to produce a commotion, even if the window be partially open. The sleeper is more or less bathed in carbonic acid all night, and must inhale it over and over again: it is entirely excrementitious, and at every breath is thrown out by the lungs expressly because it is poisonous to the blood.

A very wealthy, and really excellent man, residing at the same hotel, informed us, several years ago, when conversing on the effects of small hotel chambers, that he guarded against such results, in planning a new house, by the process that would secure air and heat, and that in the most certain and economical manner. On inquiring into the nature of his plan, he informed us that he placed a cast iron stove in his dining-room in the basement, which was partly under ground, and carried the pipe up through the upper rooms, in each of which he had a dumb stove, and put in a row of panes of glass in a sash, revolving partially on pivots over each door! He said the draught up his chimneys showed its efficiency, and he placed full confidence in the arrangement. We asked him if he was not apprehensive that it would carry the shovel and tongs up the chimney along with the carbonic acid!

In the ceiling of each room of this hotel is a hole, less than five inches in diameter with a valve to close it in winter; and this was pointed out to us in a large building constructed for a hospital, as efficient means of ventilation when the windows were closed.

We do not believe that there is a solitary church in New York City, that has any means whatever of getting clear of the carbonic acid below the sills of the lower windows; hence the frequent faintings and drowsiness of the congregation during summer afternoons, when the stomach is filled and the diaphragm is consequently prevented from descending, whilst the hooks and eyes of the dress prevent the elevation of the upper ribs, (by which women chiefly breathe) receive an explanation abundantly satisfactory.

Young farmers, have we offended you, or asserted what is not true? We certainly intended to excite your attention, and we leave you to judge for yourselves of the truth of our propositions. You can easily determine their truth if you have pluck enough left to look the evil in the face. Every adult man throws out eight and a half per cent. of carbonic acid at every expiration, or twenty-seven cubic inches every minute. Ten per cent.

of this is fatal to life? You can now take up the subject for yourself.

Farmers, if you consider the health of your children, we would advise you to raise the roof of your house immediately, if your sleeping apartments are not eight feet high and twenty feet square, at least, with one window down to the floor in each chamber, and a space of two feet, at least, between the roof and the ceiling, with large valves under the gutters on each side, to be opened in summer and closed in winter. In the middle of the roof have a small cupola, or at least a scuttle, opening inwards and governed by a cord and pulley, with a permanent roof over it large enough to keep out a violent and drifting shower. If your house is two full stories and a garret, the stair door of the upper flight of steps should be left open always, or the second story should have a trap-door in the ceiling, directly under the scuttle. The windows at the ends of every upper hall should always open like a double door, on a level with the floor; this will allow the draft to sweep the heavy carbonic acid out of the house. All large houses and factories should have wind-jackets and shafts running through the centre of the building, and all windows should go from floor to ceiling, and open in halves.

## The Veteran Farmer.

A lengthy account of the farm and farming operations of John Johnston, of Geneva, N. Y., is given in a recent number of the N. Y. Tribune, from which we quote the following description of the man and some of his practice:

Mr. Johnston is no rich man who has carried a favorite hobby without regard to cost or profit. He is a hard working Scotch farmer, who commenced a poor man, borrowed money to drain his land, has gradually extended his operations, and is now reaping the benefits, in having crops of forty bushels of wheat to the acre. He is a gray-haired Nestor, who, after accumulating the experience of a long life, is now, at sixty-eight years of age, written to by strangers in every state of the Union for information, not only in drainage matters, but all cognate branches of farming. He sits in his homestead, a veritable Humboldt in his way, dispensing information cheerfully through our agricultural papers and to private correspondents, of whom he has recorded 164 who applied to him last year. His opinions are, therefore, worth more than those of a host of theoretical men, who write without practice. He says that the retrogression of our agriculture in the States, is to be accounted for in our lack of drainage, poor feeding of stock, which results in giving a small quantity of poor manure, and in not keeping enough to make manure. He applies twenty-five loads of manure to the acre at the beginning of a rotation, and this lasts throughout the course. He learned from his grandfather that no farmer could afford to keep any animal that did not improve on his hands, and that as soon as it was in good marketable condition it should be sold and replaced by another. This theory he has always carried out, and as a natural consequence, has always got higher prices for his beef stock, and a ready market in the duller of times.

## HIS PRACTICE IN DRAINING.

His ditches are dug only two and a half feet deep, and thirteen inches wide at the top, sloping inward to the bottom where they are just wide enough to take the tile. One main drain, in which are placed two four-inch tiles set eight inches apart, with an arch piece of tile having a nine-inch span set on top of them, was dug three and a half and four feet deep, and this serves as a conduit for the water from a large system of laterals. Drains should never be left open in winter, for the dirt dislodged by frequent frosts so fills the bottom that it will cost five or six cents per rod to clear them; and moreover, the banks often become so crumbled away that the ditch cannot be straddled by a team of horses, and thus most of the filling must be done by hand. Mr. Johnston in draining a field commences at the foot of each ditch and works up to the head. He opens his mains first, and then the lateral or small drains, but he lays the tiles in the laterals and fills them completely before laying the pipe in the mains. The object of this is to prevent the accumulation of sediment in the mains, which would naturally be washed from the laterals on their first being laid. By commencing at the foot of each ditch and working upward, he can always get and preserve the regular fall, which may be dictated by the features of his field, more easily than by working toward the outlet. A little practice teaches the ditcher how to preserve the grade almost as well as if gauges were employed; but before laying the tiles, the instrument is applied to test the bottom thoroughly. [I never used a leveling

instrument. I always had water, which is the best instrument.—J. J.] The necessity of this precaution will be apparent to any one who reflects that if a tile or two in the course of a ditch be set much too high or too low at either end, the water quickly forms a basin beneath and around, sediment is washed into the adjoining pipe, and ultimately even the whole bore is filled and the drain stopped.—When this happens it will be indicated after a time by the water appearing at the surface of the ground above the spot—drawn upward by capillary attraction. In such a case the ditch must be reopened and the tile relaid.

Mr. Johnston says tile-draining pays for itself in two seasons, sometimes in one. He says he never made money until he drained, and so convinced is he of the benefits accruing from the practice, that he would not hesitate—as he did not when the result was much more uncertain than at present—to borrow money to drain.

## FARM MISCELLANEA.

## Ayrshire Cattle.

The Springfield Republican, (Mass.) thus speaks of a herd of Ayrshires that was shown at the Hampden county fair:

"Mr. Birnie's family of Ayrshires attracted much attention; he keeps also a large herd of pure Short-horns; and he awards the superiority for milk to the Ayrshires. In proportion to the food they eat, he says no breed can surpass them in yield of milk. He has a young, small cow of 800 pounds, that has, since April 1st, given nearly six times her weight in milk, averaging more than her weight per month; and a two year old daughter of this cow—baby looking animal, but already in milk—yields up her 20 lbs. daily."

## How to prevent Sore Shoulders in Working Horses.

The Boston Journal says: "The plan we have tried and never found to fail, is to get a piece of leather and cut it into such a shape as to lie snugly, between the shoulders of the horse and the collar. This fends off all the friction, as the collar slips and moves on the leather and not on the shoulders of the horse. Chafing is caused by friction; hence this remedy is quite a plausible one, and is much better than tying slips of leather or pads of sheepskin under the collar."

## Temperature Underground.

A paper read before the British Scientific Association on "Underground Temperature," stated that, with a thermometer sunk to the depth of three feet, the greatest cold was experienced in February, while at six feet deep the greatest cold was in March; at twenty feet deep the greatest cold was in April, and at twenty-four feet deep the greatest cold was in July.

## A Curious Calf.

Joseph Luce of West Industry, Maine, thus writes to the Maine Farmer:

"I have a great curiosity in the shape of a deformed calf. Said calf, when two days old weighing twenty-one and one half pounds.—His head resembles that of a human being; his fore legs also resemble the arms of a person. He is now twenty days old, appears well and hearty. I cannot vouch for the breed of this calf, as I purchased the cow of a drover who said he bought her in Canada."

## Plaster and Lime on Potatoes.

J. H. Willard of Wilton, Maine, states that last spring he selected a piece of ground in the midst of his potato field, and tried two rows of potatoes without plaster or lime; two with plaster alone, two with lime alone, and two with a mixture of plaster and lime; the results were:

Planted,	Product.
Two rows without plaster or lime, 6bu. 18 qts.	
" with clear plaster, 8 "	
" with clear lime, 8 " 8 "	
" with mixture of plaster and lime, 8 " 8 "	

He says: "My crop was 117 bushels, from five-eighths of an acre, all perfectly sound. I estimate the gain, per acre, at 30 bushels, for the plaster and lime; and gain for market, more in quality than bulk."

## Wheat in Hills.

The Ohio Farmer states that a Mr. Yant of Bolivar, in the state of Ohio, has planted an acre of wheat in hills for trial. The hills are located 20 by 15 inches apart, and have each had five kernels planted in them. The wheat has been hoed, and at the present time, is said to have made a good growth.

## Potato rot prevalent in N. Y.

John Johnston of Geneva, N. Y., states that all the potatoes in that neighborhood, are "going with the rot," he does not say where they are going to, but no good place, we may be sure.

—To make nails drive easily into hard wood, dip the point into lard, and they will go without difficulty.



## Notices of the Press.

Our own MICHIGAN FARMER visits our table every week, and brings a feast of good things. The FARMER sustains a high character among its class of journals. We are happy to see that our State has had the good sense to appreciate the talent of its editor, R. F. Johnstone, Esq., and appoint him to the position of General Superintendent of the Agricultural College Farm at Lansing. We are sure he will fill the position with advantage to the State, the students and the farm, and with credit to himself. The FARMER is published weekly by him, at Detroit. \$2.00 per annum.—*St. Johns Democrat*.

THE MICHIGAN FARMER fulfils the promises of its prospectus, which is more than can always be said of such promises.

The series of articles on "The Structure and Properties of Wool," by Dr. Goadby, are valuable and interesting, and any scientific publication in the country might well be proud of them.

The price current, the editor may, and we hope will, make a prominent specialty of the FARMER. The Farmer's newspaper ought to be a perfectly reliable source of information as to the markets of produce.

We hope the FARMER is a success, pecuniarily. It certainly deserves to be. Mr. Johnstone has shown himself courageous in changing the FARMER to a Weekly at such a pecuniary crisis.—*Gazette*.

MICHIGAN FARMER.—To the farmer and horticulturist of Michigan, this publication is unequalled. Devoted to the advancement of their interest it is always filled with good things, suited to their wants and necessities. Good farmers will have this paper. It is published in our own State and is furnished as cheap as any paper in the United States.—*Lapeer Republican*.

THE MICHIGAN FARMER finds its way to our table regularly every week. It is gratifying that the intelligent farmers of Michigan are so well represented through the columns of this weekly Journal, and they give it their generous support. No paper in the Union excels it, and for the latitude of Michigan, no one equals it.—*Genesee Democrat*.

We notice that our Agricultural Society have adopted the plan of awarding, in some cases, copies of the MICHIGAN FARMER as premiums.—This is a good move, and those who are so successful as to draw them will find them of much more value than the "Diplomas," and "Transactions" which used to be awarded. We consider the MICHIGAN FARMER, published at Detroit, and the *Ohio Farmer*, published at Cleveland, as two of the best and most useful agricultural papers in the country, and no intelligent practical farmer should be without one or both of them. You would find either of them a good investment. Price of each \$2.00 per annum, \$1.50 in clubs.—*Branch County Republican*.

MICHIGAN FARMER.—We cannot too highly recommend this farming journal to the notice of our agricultural readers. It should be in the hands of every farmer, and of every farmer's wife and children.—*Rep. Banner*.

THE MICHIGAN FARMER, is received, a splendid weekly journal, devoted to the affairs of the farm, the garden, and the household, published at Detroit by R. F. Johnstone. It is a neatly printed quarto sheet "chuck full" of the very best agricultural reading. We wonder that there is not a larger number taken here.—*Ingham Co. News*.

MICHIGAN FARMER.—We cannot over estimate the value of this excellent agricultural journal.—For reliable information relative to the subjects of which it treats, it cannot be excelled. Every farmer in the State should take it. It is a large weekly paper published in quarto form, and is cheap at \$2 a year. Three copies for \$5, five copies for \$8, and ten copies for \$15. Address R. F. Johnstone, 130 Jefferson Avenue, Detroit.—*Bay City Press*.

We are in receipt of the MICHIGAN FARMER, a weekly journal of affairs, relating to the farm, the garden and the household, published at 130, Jefferson Avenue, Detroit Mich. R. F. Johnstone, Editor. The FARMER is pronounced by competent judges to be one of the best agricultural papers extant, and we cheerfully annex it to our list of Exchanges. The low rates of their clubbing terms, afford an opportunity for every farmer to subscribe.—*Morenci Star*.

MICHIGAN FARMER.—This weekly journal is becoming more and more a credit to our State.—Each number is filled with important matter, with most judicious selections and able editorials. It certainly deserves to be sustained and supported by our agricultural people. It is an excellent reading and family paper also—contains the latest general news and scientific intelligence. Its horticultural calendar, for April, contains articles on the preparation of the garden, on kitchen garden plants, on apple seeds and their treatment, which are useful to every one who has a garden to cultivate. The price of the journal, is \$2 a year—three copies for \$5, or five copies for \$8, in advance.—We hope the efforts of Mr. Johnstone, the able and indefatigable editor, will be amply rewarded by a large list of home and foreign subscribers.—*Marshall Expositor*.

Many letters from private personal correspondents are even more encouraging than the above.—We have room but for one or two. An influential farmer in this State writes:

"I send you a few more names for the FARMER. Our town will make a show on your books another year. Many eastern agricultural papers have been taken here, which are good enough as far as they go, but we find out that if we want to know anything about Michigan agriculture, we have got to look to the MICHIGAN FARMER for it. Your weekly is much liked. It comes fresh, prompt, and full of good things every time."

A Massachusetts subscriber says, "I take nearly all the agricultural papers published in the United States, and would rather be without any three or four of the others than the MICHIGAN FARMER."

One in Western Illinois writes: "Enclosed find my subscription for the FARMER. I have tried a good many papers, but none seem to come right home to us with the information we want as yours does. Let Eastern ones say what they will, and strain themselves to the utmost to buy up our subscriptions at a discount, they cannot satisfy us; we have not what we want here at the West, till we get the MICHIGAN FARMER."

## NEW ADVERTISEMENTS.

HIGHT & STRAENS, Detroit.... Sulphite of Lime.  
LUTHER TUCKER & SON, Albany, N. Y.  
Annual Register of Rural Affairs.

## PROCLAMATION.

Another year has passed, and the many blessings it brought in its varied seasons admonish us of our dependence upon the Author of all good, for the enjoyments of this life. Let us, therefore, humble ourselves and give thanks to him who has averted war, pestilence and famine from our midst, and has filled our granaries with more than we deserve, and blessed our State and nation above all other nations of the earth.

I do, therefore, appoint THURSDAY, the twenty-fourth day of November next, as a DAY OF THANKSGIVING AND PRAYER to the God of Heaven, for His many blessings, and I invite all persons on that day to abstain from their usual avocations, and join in giving thanks to our Heavenly Father for the many favors we are daily receiving at His hands.

In witness whereof, I have hereunto set my hand, and caused the Great Seal of the State of Michigan [L. S.] to be affixed at Lansing, this 20th day of October, A. D. 1859.

By the Governor, MOSES WISNER.  
N. G. ISBELL, Secretary of State.

## MICHIGAN FARMER.

R. F. JOHNSTONE, EDITOR.

SATURDAY, NOVEMBER 12, 1859.

## The Breadstuffs Trade.

There is nothing that tells so quickly the run of trade as the comparison of what is done in one year with what is done in another. Last year from the first of September up to October 21, the export of flour to Great Britain was nearly fifty thousand barrels, of wheat there was 238,000 bushels, and of corn 216,000 bushels; this year how different is the result, and with a much better crop on hand of every kind, for all must admit that though there has been short crops in special localities, the average crops are very much fuller than those of last year, the export for the present year since September first has been of flour, but 23,702 barrels, of wheat only 26,642 bushels, and of corn not a bushel!! We may well ask what does this mean, and will there be really no better demand during the next twelve months, or will the demand only be in this proportion? If the foreign trade only continues in this ratio as compared with other years, the country must be brought into the spring months of next season with an enormous supply on hand. And this view is confirmed by a reference to the exports during the same period of 1857 and 1856. During the fall of 1857 comprised between September 1 and October 31, the export of flour to Great Britain was one hundred and fifteen thousand barrels, and of wheat, a million and a quarter of bushels; in 1856, there were some seventeen thousand less barrels of flour, but the export of wheat was enormous, reaching to very nearly two and a half millions of bushels, and of corn, there was a million and a quarter. The difference is enormous, and every reflecting man will see that if in years when we had not large surplus crops there was an exportation at this season that did not affect us materially, or our markets, the almost total decline of such a trade must affect very materially the future of the markets for this present crop.—So far the home trade and demand has been so good that fair remunerating prices have been obtained, and kept up entirely independent of the foreign demand. The question now sought to be answered is, will this home demand be kept up, and will such a state of the markets exist throughout the whole season? It is a question that those who hold their crops for the spring trade are deeply interested in; and which may not be answered hastily. We shall see how it will be answered by the actual returns of trade.

## The Cattle and Pork Trade.

New York, Albany and Boston are having a surfeit of beef. When the weekly markets open, the cry amongst the buyers is "still they come." Low rates made a slight cessation for a week, and there were symptoms of recuperation, but the numbers ready to take advantage of the slightly better feeling were so great, that the result was a still farther decline. The great supply at the east seems to consist of cattle of poor quality. First rate well fattened animals seem to be always in demand at good prices, even in spite of the flood of "poor trash," that drovers will buy, and will sell; the first because they get them for "next to nothing," and the latter because they get even more than they expected.—When packing cattle are bought for two cents per pound live weight, in Detroit market, we may be sure the packer earns his money in trying to fill his barrels. We note, however, that sales have been made in New York at the same rate, which is quoted as the lowest paid last week for live weight. Good fair quality of beef cattle, however, are doing better, being worth \$2.75 to \$3.00 per 100 lbs. The pork trade is beginning look up, or at

least there are considerable efforts being made to give it a lift. The general reports which come to us from Chicago, Cincinnati, Louisville, and the other places which are the centres of the great pork trade, speak as if there would be fewer hogs than usual. This feeling of a light crop is that which is prevalent every season, however, in those latitudes, about this part of the year, and not a great deal of reliance is to be placed upon it. Prices of hogs in Detroit are not as good as they were this time last year by a cent and a half per pound, and yet before the end of the season they may work up as they did then to seven and eight cents.

## Our Paper and Our Friends.

The first year of the MICHIGAN FARMER Weekly is drawing to a close. It has been a trying one, as all prophesied it would be when we made the change and adopted the pre-pay system. But the crisis of the trial is over now, and though we do not feel like saying with our good Governor that we have been blessed with success "more than we deserve," yet we have little cause to complain, considering the great scarcity of money there was among farmers in the beginning of 1859. Of one thing we are very sure, and that is, that the best step forward the FARMER ever took was when it set its foot down upon the advance pay plan. In our hours of severest labor, by day or by night, no consideration connected with the paper gives more pleasure than the thought that we are working for those who have appreciated and paid for our efforts in advance. And again, we never before had such a happy, self-satisfied list of subscribers on our books. They feel perfectly independent and at liberty to praise or find fault with their paper as they think it deserves. It is their paper, and not the publisher's. At the same time they have the good sense to know, as all men do who are sensible enough to pay for a paper in advance, that though they have bought and paid for the paper, the Editor is not included in the bargain. They are willing that he should be as independent as they are, but do not hesitate to give him a hint when they think he is going wrong. They feel their right to do so, and that is a feeling a delinquent subscriber never was conscious of yet.

From the past year's trial of the Weekly, its friends have become satisfied that it is the paper for Michigan farmers, that it gives them news of the progress of improvements in our own State which no other paper can give, and they are determined that their neighbors who have been holding back to see if it lived, and also that those who did not feel able to take it last year, shall now take hold with them and give it the support it deserves. They are already canvassing for clubs for the next volume.

That it may be seen that interested subscribers are not alone in their good opinion of the FARMER, we give to-day a few of the friendly notices we have received from the Press in our own State; at the same time tendering our thanks to the Editors for their courtesy.

Farmers who wish to get clubs, show this paper to your neighbors and send for more specimen numbers.

## A Western Editor's Idea of us.

The Editor of the Wisconsin Farmer visited our late State Fair. By way of introduction to a description of what he saw, he thus writes:

"If any one thinks that the farmers of Michigan are deficient in that virtue which, for want of a better term, we call 'snap,' such an one should have attended their State Fair, just held in Detroit. We have, this fall, attended many of these agricultural 'Fourth of Julys,' but have nowhere seen more intelligence and taste shown in fitting grounds and providing for the exhibition of agricultural products; more cuteness and enthusiasm among exhibitors, or a greater variety, and more uniform excellence in articles exhibited."

## A Grand Traverse Turnip.

We have left in our office a turnip raised in Grand Traverse which weighs ten pounds, and is said to be a good sample of the average size of the crop there this season. It is of the Swedish variety, and is quite a little monster in its way, considering the short summers of the high latitude where it grew. If any one thinks Northern Michigan cannot raise vegetables enough to sustain a good farming population, and all the live stock they need, let them send to Grand Traverse for a specimen turnip, or call and see this one.

The article on Wintering Bees, on the second page, should be credited to the American Citizen Jackson, instead of Owosso.

## Literary News.

The American Journal of Science and Arts, for November, is received. It gives the following table of contents: The Correlation of Physical, Chemical and Vital Force, and the Conservative Force of Vital Phenomena; Captain Blakiston's Report on the Exploration of two Passes in the Rocky Mountains in 1859; On Nitride of Zirconium; On the Atomic Weight of Lithium; Notes on Ancient and Modern Changes along the Coast of South Carolina; On the sudden Disappearance of Ice in our Northern Lakes in the Spring; On Formation of Gypsum and Magnesian Rocks; On Galic and Galbamic Acid; The Great Auroral Exhibition of 1859; Account of Meteoric Stones which fell in Indiana in March 1859; Geographical Notices, Correspondence and various scientific intelligence.

This is a most valuable work for scientific men. It is edited by Prof. B. Silliman, B. Silliman, Jr., and James A. Dana, in connection with Professors Asa Gray and Louis Agassiz of Cambridge, and Dr. Wolcott Gibbs, of New York.

The Journal is published at New-Haven, Conn., on the first day of every second month. Price \$5 a year.

The Illustrated Annual Register of Rural Affairs for 1860.—We are indebted to Luther Tucker and Son, of Albany, N. Y., for this valuable little annual offering. This is the sixth number of the series, and contains besides, a full calendar for 1860, a great number of essays on rural affairs, descriptions and plans of dwellings, implements, fencing, &c. with illustrations in all to the number of 180.

This useful work is edited by J. J. Thomas, and handsomely bound in paper at 25 cents a number, in board at 50 cents. It is for sale by Wm. B. Howe of this city.

The Jonesville Independent comes out enlarged and much improved in appearance. It is now among the largest Weeklies published in the State.

The Home Gazette is the title of a new paper which has sprung up from the ashes of the Era at White Pigeon, St. Joseph county. Messrs. Ferguson & Northrup are the editors and proprietors; and, judging from the looks and contents of the first number, we should think they would make it a good county paper.

The Mercury published at Constantine, St. Joseph county, has recently been enlarged and much improved in appearance by its new head; typographical head, we mean; the editorial head is Hull as ever.

The Chronicle, formerly published at Centerville, St. Joseph county, has been removed to Three Rivers. We presume it is prospering, but do not see it often enough to get familiar with its countenance. St. Joseph will do pretty well if she can keep up three county papers, with no large towns to afford an extensive advertising business.

## Scientific Intelligence.

Agricultural Patents issued for the Week ending October 18, 1859.—E. Ball, of Canton, O. Improvement in Harvesters.

John Ebner and Frank Lenthy, of Lancaster, Pa.—Improvement in Harvesters.

Daniel Eldred, of Monmouth, Ill. Improvement in Plows.

[The object of this invention is to obtain a plow that will be capable of turning a furrow from the same side of the land while moving in either direction across the field, and also to obtain one that may be readily manipulated and on which the driver may ride while the plow is in operation. The invention consists in having two shares attached to movable or adjustable frames secured to one axle, and using an adjustable coupler and axle; the whole being so arranged that the desired object is attained.]

Gilmore Emery and Aaron C. Wilson, of Newfield, Maine. Improvement in Plows.

Frank P. Goodall, of Deering, N. H. Improvement in Puling Knives.

Isaac Haines, of West Middleburgh, O. Improvement in Field Fences.

Samuel W. Hamsher, of Decatur, Ill. Improvement in Harrows.

James Hawkins, of Wilkins' township, Pa. Improvement in Steam Plows.

A. Rilla, of New Boston, Ill. Improvement in Corn Planters.

Adan Klaus, of Belleville, Ill. Improvement in Seed Planters.

[This seed-planter is provided with covering-shares and a cutter, that are so arranged that two small furrows are drawn on each side of the seed, leaving the latter a little elevated in the ground so that it is protected against being drowned by heavy rains. The seed is deposited on the ground from a discharge-tube, in the lower part of which one throw of seed is always kept in store, so that the regularity of the rows is not disturbed by the time which it takes for the seed to reach the ground. The dropping-apparatus is also connected with a registering-mechanism that serves to keep account of the number of hills planted during a certain time.]

Thomas McQuiston, of Morning Sun, O. Improvement in Cultivators.

Adam Miller, of Mount Pleasant, Iowa. Improved Mole Plow.

John Morrison, of De Witt, Ill. Improved Mole Plow.

Elijah Thorn, of Selma, O. Improvement in Portable Crab for Mole Plow.

Eben C. Tuttle, of Nagatuck, Conn. Improvement in the Manufacture of Hoes.

James M. Adams, of Canton, Mass. Improvement in Weeding-hoes.

Agricultural Patents issued for the Week ending October 25.—B. F. Avery, of Louisville, Ky. Improvement in Moulding Plows.

J. W. Bancroft, of Friendship, Va. Improvement in Ditching Machines.

Horace L. Emery, of Albany, N. Y. Improvement in Harvesters.

George M. Evans, of Pittsburgh, Pa. Improvement in Seed-planters.

Isaac Hoskins, of Wilmington, O. Improvement in Ditching and Grading Machines.

F. M. Robinson, of Conneautville, Pa. Improvement in Mills for Crushing Sugar-cane.

S. F. Jones, of St. Paul, Ind. Improved Mole Plow.

F. Swift, of Hudson, Mich. Improvement in Grain Separators.

[This invention relates, first, to an improvement in the screening operation, whereby the screenings are rendered much more efficient than hitherto, without adding materially to the cost of construction or rendering the device more complex than usual; second, in an improved means employed for regulating the strength of the blast from the fan, whereby the desired result is obtained by a very simple adjustment.]

John L. Wentworth, of Spread Eagle, Pa. Improvement in Field Fences.

Agricultural Patents issued for the Week ending November 1.—T. G. Beecher, of Beaver Dam, N. Y.—Improved Farm Fence.

J. A. Duffield, of McHenry, Ill. Improvement in Harvesters.

Among miscellaneous patents issued to Michigan inventors, we notice one to Aaron Eames, of Kalamazoo, for a fly trap, and one to J. L. Whipple, of Detroit, for an improved Spring Bed.

## General News.

—The trial of the Harper's Ferry prisoners continues. Stephens has been turned over to the Federal authorities, Copeland has been acquitted of treason but found guilty of murder and insurrection. Cook is now on trial and his friends have hopes of his acquittal. Brown is in jail at Charlestown and will be executed on the 2d proximo.

—The elections on Tuesday resulted generally in favor of the Republicans. Banks has been re-elected Governor in Massachusetts, and Randall undoubtedly in Wisconsin. The Republican candidate for Mayor in this city was elected.

—Paul Morphy, the distinguished chess player is about to commence the practice of the law at New Orleans.

—Moses Bates of Massachusetts has recovered \$1,600 in damages from the Washington correspondent of the Boston Journal, for libel.

—The Michigan State Prison earnings for the last six months have been \$1,735 25 more than its expenses.

—The propeller Ohio, belonging to the American Transportation line exploded her boilers on Lake Erie last Sunday morning and sunk in ten minutes. She had on a full cargo of merchandise, all of which was lost.—Of the seventeen persons on board at the time, two only were lost, the others were picked up by another boat.

—Sir J. Dean Paul and Straban, who about four years ago were sentenced to penal servitude by the English courts for frauds in some government contracts, have been pardoned by the crown.

—The strike among the London builders continues, telling seriously against the men who remained idle. They have resolved to appeal to the public for aid in supporting their families. Recent returns show an excessive mortality among the families of the unemployed operatives, and there is reason to fear that many will perish from want and disease.

From the tone of many of the French journals, fears are entertained of a rupture between France and England.

War has commenced between Spain and Morocco. In the former country the declaration of hostilities was a highly popular measure.

—Disturbances still continue in the Papal States. The Pope has returned to Rome.

—Advices from Northern Mexico indicate the thorough disorganization of the Liberal forces.

—An extensive fire occurred a day or two since at St. Louis, that destroyed a large number of buildings in a disreputable part of the city.

—Workmen engaged in excavating a cellar in South Water street, Chicago, exhumed five coffins, supposed to be the remains of the soldiers of Gen. Scott, buried in 1832, during the Black Hawk war.

## The Chester Breed of Swine.

The Chester Breed of Hogs, as is well known, takes its name from the county of Chester in Pennsylvania. The following account of the origin of this variety of the swine tribe is taken from a Pennsylvania paper, and is written by Isaac Darlington, a farmer in the said county of Chester:

"As you have requested my views on the origin of the Chester county breed of hogs, I send you these opinions as the best that I am able to give. As far back as I can recollect, between thirty and forty years, the pigs were what we would now call indifferent—hardly any two farmers had pigs that looked alike. Some run very much to short ears and legs; others were diminutive in size; while others again filled up the intermediate places.—While this state of things existed, the Berkshires were introduced; a square built, round body, but lacking depth over the shoulder, and withal a black pig. Chester county had set her eye on a white pig—and a white pig she must and would have. Accordingly, some of the older farmers began to pay more attention to the old stock; they hunted the best they could find to cross their stock with, and the change for the better was soon a marked one—better feed was given and more of it, which was a great help to his better development. The great rapidity with which the pig reproduces his stock, still kept the change in every one's recollection. The shape and color were the great changes perceptible; while you would find a great diversity in the skin—some thick and hard, others of the same lot would be thin and pliable; better shelter was given them, and the thick skin has generally given way for a thin. And the similarity is now so great, that if you go to a farmer and view his pigs, you may take them as a sample of all the different lots in the neighborhood that receive the same care. The characteristics of this breed as we may find it, are perfectly white hair, thin skin, square build, small head, a fair proportioned snout, deep sides, allowing large quarters, and great depth over the shoulders, small ears standing erect while young, but drooping after six or seven months. The weight varies according to his keep—if well kept he will average a pound a day for nearly two years, if not longer. They may be made to exceed this, and it has been done, but not generally—nor do we always reach it, as all do not feed alike.

They have been made to weigh over nine hundred, but I do not recollect their age.—There was great care taken to keep from breeding in-and-in, in perfecting this breed, which has long been known to have a deteriorating effect. We consider the above name justly given and justly deserved, and so satisfied are we that the above is the true origin of the Chester breed, that we consider we have a fair sample of the same breed on hand—although we do not recollect of having changed our stock but once for the last twenty-six years. By continually crossing with our neighbors, we consider we have the same stock."



## The Household.

*She looketh well to the ways of her household, and eateth not the bread of idleness.*—PROVERBS.

EDITED BY MRS. L. B. ADAMS.

### THE CASCADE.

All the day long,  
With a ceaseless song,  
And the whole night through,  
Down its path of blue,  
A cascade falls over rocky walls,  
In a far-off wood, where the giant trees  
Wrestle alone with the passing breeze,  
Where never a banner has floated high,  
Or a glittering spire looked up to the sky.  
There the sunlight softly flickers down,  
Through the summers green and the autumns brown,  
And the cold, bright light of the winter night,  
And the tender sheen of the spring-time green,  
In changeable beauty glow and fall  
Where the cascade sings o'er its rocky wall.

But the rocks are chill  
As the cascade still  
Pours the full tide of her passionate song,  
Whether of sadness, grief or wrong,  
Into her own cold breast of stone;  
And the murmurs low, and the saddening moan  
That echo back from that dark abyss  
The cry of the Spirit's loneliness,  
Are measured over with weary pain  
And poured on her rocky heart again;  
While a misty cloud, like a cold white shroud,  
Is gathered close o'er her troubled breast  
To hide the passions that will not rest.

Like the cascade lone,  
With its wall of stone,  
Is the ceaseless strife  
Of my hidden life,  
For coldly the stream of my being falls  
Over life's chill and flinty walls,  
And the moan of my spirit's loneliness  
Comes ever up from the dark abyss.  
I press it back with a cry of pain,  
But it springs to my sealed lips again,  
And again is dashed to the heart below  
Where the wild and passionate waters flow,  
And I draw a cloud, like a cold white shroud,  
Between the world and my weary breast,  
And long for a night of eternal rest.

### Jack Granger.

"Anybody might know by the looks of the yard and garden here that there is neither cultivation nor refinement to be found within, and I would as soon go to the poorhouse to look for a wife of taste as to think of finding one in such a place."

These words were spoken by a young gentleman whose dainty dress, delicate hands and theatrical air proved him to be one of the species known as city beaux, and his companion, an elegantly made-up young lady of flounces, ringlets, rouge and plumes, cast up her eyes in astonishment at the wisdom of his remark, and then turned them upon him with an expression that said very plainly, "I admire your penetration, and am grateful in anticipation for the preference I hope you will give to me."

Just then, a face was seen at the window of the house they were passing; a young, fair face, and Miss Belle gave her plumed head a little scornful toss, and wondered why Mr. Beau should be driving so slowly past this forlorn-looking place. Whereupon Mr. Beau gave free rein to his horse, and the forlorn-looking place and the wistful face at the window were soon out of their sight, and out of their thoughts.

Mabel Brownell's face looked sad and wistful enough that bright spring day, as she stood at the window gazing on the dreary prospect around her home. The house was situated in a charming spot, the former proprietor and builder having evidently been a man of taste not only in selecting a locality the most slightly on his farm, but also one well sheltered from east, west and north winds by fine old forest trees, the stumps only of which were now to be seen, and facing a sunny sloping lawn on the south. This lawn had been partly enclosed by a neat white paling, but, the former owner dying before it was finished, and the property falling into the hands of Mr. Brownell, the enclosure was completed by a rough log and rail fence, and the grassy area within was devoted to a hog and calf pasture. It was over this plot of ground that Mabel was looking, and it was for the broken shrubbery, eaten to the ground, and the flowers rooted from their beds, that her tears were gathering.

The Brownells had taken possession of the place in the fall, and Mabel and her mother had been congratulating themselves on finding so many beautiful shrubs and roots of perennial flowers already planted along the walks of the little front lawn; they had talked of additions and improvements they would make in the spring, and built many flowery castles in anticipation. But the thrifty Mr. Brownell and his sons thought it a shame to have so much sweet grass and clover growing for nothing; it was the most convenient place on the farm to keep the calves and pigs; what signified a few roots and little sticks of bushes when they were in the way of man's convenience or of the comfort of his frolicsome calves and pigs? Nothing, of course. And so the calves and pigs went in, and shrubs

and flowers and pleasant hopes of mother and daughter were all destroyed together. The great trees had been cut down to give free circulation to the air, and make it more healthy. The father and boys were driving men; they meant to make the most of their time in getting in large fields of spring crops, and had no time to mend up the garden fence, so the digging and pruning there mostly devolved upon the pigs and calves aforesaid, who had tolerable free access to it through wide openings in the fence. Altogether, the prospect looked so dreary to poor Mabel, that after a few tears had fallen down her cheeks, she turned from the window and tried to forget her disappointments in preparing dinner for her hard-working father and brothers.

But another pair of eyes, unseen by Mabel, were looking at her, and other ears than those of Miss Belle had heard the unjust remark of the fastidious beau. A pair of stout fists were shaken defiantly at Mr. Beau's back, and a voice muttered some very emphatic words, but they were drowned by the rattle of the carriage wheels as the self-satisfied couple drove past. Jack Granger was in the barn yard loading a wagon with manure. He was Mr. Brownell's hired man; a sturdy, silent, hard-working man he was, never intruding his advice upon his employer, or questioning in any way the policy of his measures, but performing without word or comment the task set before him. He had been working for Mr. Brownell all winter; his strong hands had swung the axe with relentless force into the very hearts of those stately old trees, and when they had fallen he had helped to cleave the rails from their trunks and lay them in zigzag form to make a calf pasture of that pretty lawn. If a feeling of regret or compunction crossed his mind no one ever knew of it. Perhaps if his employer had bid him tear down the walls and roof that sheltered his family, and turn them from their beds in a winter midnight, he would have obeyed with the same stoical indifference. It was never known of Jack to be surprised at any event, however unexpected, or to be moved to any expression of interest in what was going on around him. But these careless words of Mr. Beau had jarred a chord in his rough bosom that had never been touched before. He dropped the heavy fork he had been wielding, shook his clenched fists, and muttered unintelligible words. He could see Mabel from where he stood, but he knew she was not looking at him, or thinking of him either, and, for the first time in his life forgetful of the task before him, he stood gazing on that gentle face at the window. Long after it had turned away, he saw it as if it were there still, and still those taunting words were ringing in his ears, "No cultivation or refinement to be found within."

"It is a base falsehood and spoken by an ignorant puppy," he said to himself; "but I, great, ugly heathen that I am, have helped to bring this reproach upon her, and so help me Heaven as I help myself and her, I'll take it away again, and give months of sunshine to her sweet face for every tear she has shed."

Jack had a harder task before him than he anticipated. In the first place it was not easy for him to come out of his silent self, to manifest an interest in any of the farm arrangements, and in the next place, to accomplish what he wished, he would have to work directly against Mr. Brownell's plans, and undo what he had been all the winter doing. He thought it all over while he was loading the wagon, trying to lay out some plan of operations, to think of some place to begin at, something he might do to start the work of reform, for, thought he, the beginning will be the worst of it, but once let me get fairly started and I shall take all with me! With this conclusion to his soliloquy he gave the last fork full a most energetic toss to the top of the load, and started his team off towards the field. He had to pass by both the lawn and garden on the way, and seeing the pigs busily rooting over a bed of pinks in the latter, he could not resist the impulse to pick up the first stone in his way and hurl it at them, though at any other time they might have rooted the house down and he would not have noticed it unless told to do so. Mabel saw this act from the kitchen door where she was standing. It was like an omen of better things.

"Mother," she said, "I think if father would consent to let Mr. Granger help me, even for a half an hour each day, we might save much of the garden yet. It is not all destroyed, and I think Jack would be willing, for I saw him throw a stone at the pigs just now to drive them out, and I do not believe he is as thoughtless about such things as he seems, for he looked as though he could have killed them for the mischief they were doing."

"I do not know," sighed the mother, "Your father and brothers have very little care about

such things, and I think Jack Granger has less though he is an excellent hired man, and your father values him highly for his industry and faithfulness. I hardly think it will be worth while to try to do much with the garden now. It would be labor in vain for you and me, and we have so much to do in the house we shall have little time for out door work."

Mabel said no more, but all the time she was getting dinner, she was studying how she might break the subject to Jack Granger, for she felt that she would be more successful to go to him personally than to ask her father's interference. As she was washing the dishes after dinner, she was a little surprised to see Mr. Granger walking slowly down beside the broken fence between the garden and the yard, instead of going to the barn to take his nooning, as was his usual custom. Her father and brothers were lounging their hour on the back porch, opposite the door that led out to the garden. Jack carefully reconnoitered the whole ground, walked twice around the garden, and once around the lawn, and then got upon the fence near the road, where he sat till it was time to go to work.

The next day immediately after dinner a vigorous pounding was heard in the direction of the garden. Mr. Brownell and the boys started to see what was going on.

"It is only Mr. Granger driving stakes to mend up the garden fence to keep the pigs out," said Mabel, who had been watching his movements with much interest.

"He is fooling away his time," remarked one of the boys, returning to the bench where he had been lying.

"He had better be resting for the afternoon's work," said the father as he sank back again into the great arm chair in which he always took his nooning.

So Jack worked on undisturbed, and Mabel watched him eagerly from the kitchen window. He was ready to go to work with the others when their hour was up, and, as there was no abatement in his energy, nothing was said about the garden work. The next day he was there again.

"What has got into Jack?" exclaimed Mr. Brownell.

"I guess Mabel has been coaxing him to save some of her posies," said one of the boys. "It's a kind of work such a glum fellow as he is would not be apt to think of without somebody asked him to do so."

Mabel was called and questioned, but proved herself innocent of any knowledge of Jack's intentions or the incentives to the work.

"Well," said Mr. Brownell, "so long as it don't interfere with the time I pay him for, I don't care if he does help you and your mother so that you can raise something in the garden. But I can't have my time spent in such tinkering."

Mabel longed to run down into the garden and thank Jack for what he was doing, and ask him how he came to think of it, but he had always been so silent and so shy of her that she hardly knew how to venture on such freedom. Jack was in pretty much the same predicament with regard to Mabel. His natural reserve had always been a barrier to any sociability between them, and it was hard for him to break over it, though he longed to ask her what her wishes were with regard to the planning and planting of the garden. He knew well enough she was pleased with what he had undertaken, for there was not an expression on her lovely face that he did not mark and study its meaning. But to speak with her on familiar terms, to ask her questions, and have her look in his face and answer them, was something that silent Jack Granger was hardly prepared for. Day after day he spent his half hour after dinner working at the broken fence, wondering how it would come about that the first words should be spoken that would break the silence between himself and Mabel. She, dear girl, was anxious too, and wondering what would be the next step after the fence was done, or would that be all, and would Jack go back to his lonely noonings in the barn again? It was done at last, and Mabel knew it as soon as Jack did, so instantly had she watched every stroke and the laying on of every board. She saw him turn and look around over the despoiled beds, then walk a few steps towards the gate and stop again as if irresolute or doubtful what to do next. Timidity could keep her back no longer. In a moment she was at the gate.

"Mr. Granger," she said, "I have come to thank you for this work, and to ask you, now that the fence is done, if you can give me a half hour's help once in a while till we get this garden into order again? I shall only want assistance about the laying out and spading for the planting and weeding I can do myself

Would you be willing to help me for a little while?"

"All your life time, Miss Mabel!" blundered out Jack, whose face had been changing color with almost every word she spoke, and now turned terribly white through the bronze tinge that the sunshine and south winds had given it.

"O, it will not take as long as that, I hope," said Mabel, trying not to notice his embarrassment; and then she began telling him where the walks should be, and how the beds should be planned, and what should be planted.

This was a most auspicious beginning for the great reform Jack had promised himself to bring about. He was fairly started now, and, as he had said he should, took all with him as he went. It is true, it took time to do it, but in three years, industry and patient perseverance had wrought a wonderful change in the Brownell farm. There was not a more luxuriant garden for miles around, and as for the lawn with its velvet grass and pretty shrubbery, you would not have believed that a pig or calf had ever dreamed of rooting or browsing within its limits.

Mr. Brownell did not object to this revolutionizing so long as it did not interfere with the regular farm work, and, somehow, inexplicably to themselves, the boys were gradually drawn into the schemes for improvement which their sister and Mr. Granger were carrying on so vigorously, yet quietly. And when they came to see the advantage of the change, they were sensible enough to acknowledge the pleasure they derived from it. They had not thought such things could be attended to without great loss of time and outlay of money, which their father said they could not afford. They found, however, that the field crops thrived and yielded quite as bountifully while the garden bloomed and gave them its fruits in their season, as they did when it was laid waste and desolate; and also that the calves in the brook pasture beyond the barn, and the pigs in the spring lot adjoining, grew and thrived even better than they had done when kept browsing on rose bushes, rooting up pinks, and bleating and squealing around the door steps.

But of all the changes whose beginning might be traced back to that careless remark of the city beau, none were so great, so entire, as that which came over Jack Granger. It was as if he was under the spell of some wonderful magician. And we believe he was. At any rate, the old spell of silence and social indifference was completely broken. What magic he and Mabel studied together in the garden and on the lawn may never be known, but a few facts that came to light about him may as well be told. They were these: He was a Connecticut farmer's son, had been brought up to hard work, but well educated, and, after attaining his majority, had taught school a year, and then came to the west, as he said, with the determination to make a fortune. He knew no other way to get it than by hard work, and to work he went. He had been in this neighborhood one year before Mr. Brownell came, and had set his mind on having the farm adjoining the one now owned by that gentleman. Mr. Brownell was shrewd enough to see that he was a good hand, offered him high wages to help get his new farm under way, and engaged him for a year. He stayed till he earned enough to make a good payment on his own farm, and won Mabel too, to go and help him make a home upon it.

"But why were you always so silent?" asked Mabel one day when they were speaking of their early acquaintance, "and how came you by such a name as Jack? You should have taught people to call you John from the first."

"My business in the first place, was to work and not to talk. In the next place, my name is neither Jack nor John, but, simply James. Some one saw my trunk marked J. Granger, and gave me the name of Jack, which I never took the trouble to contradict. You loved me first as Jack Granger, Mabel; do you think you can love James as well?"

Reader, we should like to take a drive with you over the road where we first saw Mr. Beau and Miss Belle, and show you the handsome grounds and residence of James Granger, Esq., and perhaps we will at some future day.

*Old Fashioned Girls.*—We believe, says an exchange, in old fashioned girls—never could admire a waup waist or a sickly face. There are two styles of beauty which we cannot appreciate. One is the fragile, pale faced, hysterical girl, who eats chalk, drinks vinegar and poultices her hands; and the other is the cross, red faced, plethoric creature, who drinks beer and talks vulgarly; to use a Dutchman's simile, resembles a "feeder bed mit a string in ter middle."

### The Starved Children.

From "Lost and Found," S. B. Halliday, Missionary of the New York Home of the Friendless.

The winter of 1856-7 will always be remembered by the present generation as the cold winter! When a boy, no matter how much it appeared like snowing at once, if the weather was very cold we always understood that it must moderate, before it could snow. Yet it was not so in the winter referred to. As we pass along, the snow is falling so fast, it is impossible through the flakey veil to tell whether the walker on the opposite side of the street is white or black, and yet the thermometer marks below zero.

With heavy overcoat and comforter, we must move rapidly to be at all comfortable. The snow did not wait that morning for any moderation, but came down as if in a hurry to reach its destination.

I started early from my own comfortable home, to seek some less favored pensioner of the Divine bounty, and had walked more than two miles, when I perceived in front of a building the Alms-house cart, or, as it is quite frequently termed, the "Black Maria." Two men were engaged in lifting something into the wagon, that through the thickly-falling storm looked very like a bale of rags loosely tied, sagging in the centre, either end being somewhat elevated; but as I drew quite near, I found it was a woman, whom they lifted in and laid on the bottom of the cart. She seemed perfectly lifeless; not a sound escaped her lips, nor was any appearance of life discernable; and as the door of the cart was closed and bolted, the men said "she was frozen, and they were taking her to Bellevue Hospital."

After they had driven away, I entered the house, and in an upper room I found four children in great trouble, crying and seemingly overwhelmed with sorrow. Three of the children were girls, aged about eight, ten, and twelve years. They were standing in a row, leaning against the wall, the oldest holding in her arms a little boy eighteen months old.

She immediately appealed to me in the most piteous tones: "Oh, mister, please let the baby go with mother, wont you? Do, sir. If you will let the baby go with mother, you may do what you please with us; do let the baby go with mother. If you don't he will die, for he has never learned to eat!"

"Your mother cannot take care of herself, much less of the baby; but we will take you where you shall have all you want to eat, and clothes to make you warm, with friends who will be kind to you, and some one to teach the baby to eat."

This seemed to be a great relief to them. Their cries immediately ceased, and tears stopped flowing.

The condition of these children defies description. For thirty years I have been familiar with poverty, intemperance, and crime, in their various developments; but had never before met with such an utterly wretched group. Their clothes and persons were foul with dirt, and alive with vermin; their heads covered with ulcers; and sorrow and suffering in had made such a mark upon their faces, as I never saw on any other face.

Obtaining a coach, I had them conveyed to the photographers, where they were photographed as we found them, and in the same condition they were taken to the Home for the Friendless. Some of the ladies, who had been connected with the institution for many years, said on our entering, "We have never seen this equalled."

The poor children appeared so nearly starved, that without waiting to wash them or change their garments, they were allowed immediately to sit down to the table.

We have been hungry, and have seen others that were hungry eat; but starved ones we never saw eat before. They ate, and ate, until I began to be alarmed lest they should injure themselves by the quantity of food they were devouring. The babe had an old horse-blanket wrapped around its shoulders, appearing very much as if it had passed through two or three winter campaigns in the stable of some not over-clean hostler; and it looked quite as well as the clothing on all of them, that when stripped from them was but a pile of "locomotive rags," which was carried out with the tongs and burned. After a thorough bath, and changing their rags for nice clean garments, their appearance was wonderfully altered; but for many days their countenances were heavy at times, and for weeks the sunshine of hope was not always on their faces.

We found that the father of these children had been dead for some time; that the mother, a wretched, intemperate creature, had kept the children begging on the streets; and in this way was obtained what food they had, while the money which they received supplied the miserable mother with rum. When the children came in from their begging excursions, the money they had collected would be at once expended for rum, the mother con-



tinuing to drink until the supply was exhausted, and when grossly intoxicated would attempt to drive the children into the street to beg again; the children not obeying readily, the beastly creature would attempt to coerce them, when they would creep under the bed, behind a large box. To drive them out, their mother would seize the poker from the stove, and, too drunk to know better, would pound on the box instead of the heads of the children.

From the education they had received, the example set them, and all the influences to which they had been subjected, we apprehended only a sorrowful development in their new home and surroundings. In this, however, we were pleasantly disappointed, it being the testimony of those under whose supervision they came, that their conduct was almost entirely unexceptionable; and no rebuke to either, I think, was ever administered while they remained at the Home.

They were active, apt, obedient, and affectionate. Before the close of the third day the older child threw her arms around the neck of the matron, exclaiming: "O, how I wish there was something I could do to pay you for all you are doing for us; but I can not do anything even to help to pay for our board; I am so glad we are in this beautiful place."

No group of children could seemingly do more to repay attentions bestowed than they did, by their strict adherence to the wishes of their friends, and their manifest gratitude and affection.

Three months had elapsed since their reception at the Home; the babe a wretchedly diseased little thing, yet a most patient little sufferer, had died; and the condition of the sisters had improved so much, that we took them to have their photographs taken again; wishing to have the two, to show the effects produced by so brief a period of kind, generous treatment. There could not well be a greater contrast than these two sets of faces show. No one could conceive that they were designed to represent, and really were the same persons, and that three months had sufficed to work the marvellous change. The terrible scowl, which hunger, frost, and vermin had ground into the very flesh, was gone, and their countenances were radiant with health and hope. Homes for the three were provided in excellent families, not distant from each other, in the West.

Soon after I had taken the children to the Home, I attempted to trace the mother; inquiring at the hospital, and examining the books, I could not find that she had ever been received there, and stating the circumstances to the clerk he said "she had probably died in the cart on her way up, and been carried directly to Potters-Field and buried." More than a year after this she made her appearance at the Home, inquiring for her children; but the ladies who saw her gave her no satisfaction in regard to them. She called again in a few weeks, wearing all the appearance of debauchery. She insisted upon having her children; I asked why she wanted her children; she did not take care of them when they were with her; that we had taken them to save them from starvation. "Oh," she replied, "what can I do without my children, nobody will give me anything if I have no children."

I dismissed her with the assurance that her children were well provided for; and that she could call occasionally and ascertain how they were; but she could not have them, nor could she know where they were. Since then we have not been troubled with her calls, and for twelve months she has not been seen.

It appears that instead of being dead, she was only dead drunk when lifted into the "Black Maria;" and the shaking up she had in it, combined with the cold, had restored her to consciousness, and she had been sent over to the workhouse on the island, instead of being left at the hospital; she had been several times dismissed from the workhouse; but only, by her intemperance, to be recommitted. She did not appear to have the least affection for her children, and the only reason why she desired to have them with her was that she could beg through them; and her case is only an illustration of thousands in this city.

Passing through the streets of a beautiful town in northern Illinois, a few months since, I discovered the oldest of these sisters engaged in sweeping about the door of the house where she resided; and it was worth going a great way to have seen her face and eyes when she recognized me. The next younger sister is with a family of piety, intelligence, and wealth, in the same pleasant town. She is a beautiful child, and the excellent family with whom she is prize her very highly. The daughters, young ladies, have a great deal of affection for her. The father said to me, "We got pay for all we do for M—as we go along; she is so affectionate, obedient, and kind, it well repays us. And her moral and intellectual developments are such that we

are willing and mean to spare no pains to fit her for a useful and honorable position."

It was a great satisfaction to meet these dear children once more; and especially to perceive the great change since my first acquaintance with them. The sad face of M—as I found her I shall probably never forget; and as I saw her in the parlor of the mansion where she now dwells, sharing in the affections of that excellent family, and in the elegancies of wealth and Christian refinement, I felt "truth is stranger than fiction." My heart, too, warmed toward that dear family that were acting with such noble munificence toward a child whose utter desolation they so well understood; verily they shall have their reward. "Inasmuch as ye have done it unto one of the least of these my disciples, ye have done it unto me."

#### Household Varieties.

##### LOVE.

O! censure not the heart that loves,  
However strange a choice we see;  
Each gentle spirit knows its mate,  
Tho' hid from us the tie may be!

When mortals meet, their spirits hold  
Communion, in the silent air;  
And trust, and doubt, and love, and hate,  
Invisibly are awakened there!

O! let them freely love that can!  
Our mortal loves will soon be o'er,  
We cannot know what earthly bliss  
Survives—upon a heavenly shore!

Full many a fragile, tender joy,  
Was made for this poor world alone;  
And whether fond, or failed, or here,  
In after-life will ne'er be known!

**Home Reading.**—One of the most pleasant and noble duties of the head of the family is to furnish its members with good reading. In the times when we passed it was considered enough to clothe and feed and shelter a family. That was the sum of parental duty. But lately it has been found out that wives and children have minds; and so it has become a necessity to educate the children and furnish reading for the whole household. It has been found out that the mind wants its feed as well as the body, and that it wants to be sheltered from the pitiless storms of error and vice by the guarding and friendly roof of intelligence and virtue.

An ignorant family in our day is an antiquated institution. It smells of the musty past. It is a dark spot which the light of the modern sun of intelligence has not yet reached.

Let good reading go into a home and the very atmosphere of that home changes. It becomes clearer, purer, more cheerful, healthful and happy. The boys begin to grow ambitious, to talk about men, places, principles, books, the past and the future. The girls begin to feel a new life opening to them of knowledge, duty and love. They see new fields of usefulness and pleasure. And so the family changes, and out from its number will go intelligent men and women to fill honorable places and be useful members of community. Let the torch of intelligence be lit in every household. Let the young and old vie with each other in introducing new and useful topics of investigation and in cherishing a love of reading, study and improvement.—*Valley Farmer.*

**Miss Martineau on Cookery.**—What is to be done for cooking does not come by nature, nor even ordering a table by observation. The art must be learnt, like other arts, by proper instruction. We want, and we must have, schools of domestic management, now that every home is not such a school. Mothers can, at least, teach their daughters to know one sort of meat from another, and one joint from another, and, in a rougher or more thorough way, what to order in the every day way and for guests. Thus much, then, every girl should know, from childhood upward. A little practice of observation in the markets would soon teach a willing learner to distinguish prime articles from inferior kinds, and to know what fish, flesh, fowl, and fruits are in season every month in the year. We have seen ladies buying pork under a sweltering summer sun, and inquiring for geese in January and July, and taking up with skinny rabbits in May, and letting the season of mackerel, herrings, salmon, and all manner of fish pass over unused.

**Duty.**—How often hast thou found thyself at the entrance into a duty becalmed, as a ship which at first setting sail hath hardly wind to swell its sails, while under the shore and shadow of the trees, but meets a fresh gale of wind when launched into the open sea? Yea, didst thou never launch out to duty as the apostles to sea—with the wind in thy face, as if the Spirit of God, instead of helping thee on, meant to drive thee back, and yet hast found Christ waiting to thee before the duty was done, and a prosperous voyage made of it at last! Abraham saw not the ram which God had provided for his sacrifice till he was in the mount. In the mount of prayer God is seen, even when the Christian does go up the hill toward duty with a heavy heart, because he can as yet have no sight of him. Turn not, therefore, back, but go on with courage—he may be nearer than thou thinkest. "In that same hour," saith Christ, "it shall be given unto you."

Did you ever know of such a mechanical genius as my son?" said an old lady. "He has made a fiddle all out of his own head, and he has wood enough for another."

#### Household Recipes.

##### Making Soap.

Any kind of waste grease, scraps or bones, whether they contain marrow or not, are a benefit in making soap. It should be made before the flies and worms get to the grease.

The leach should be placed upon blocks, and a wide board placed under it, slanting a little at one end. If a barrel is taken that has one head in it make an auger hole toward one side in the bottom for the lye to run through, and turn that side toward the slanting end of the board. Place some small sticks in various directions in the bottom of the leach, and cover them with straw

If the ashes used are not quite strong enough, put some lime in the bottom before putting in the ashes. Ashes from maple or elm wood are much better for soap than beech, or any light woods. If the leach is not immediately wanted the ashes may be added from time to time, as they are collected, which saves time and labor in handling them.—Saturate the ashes with water any time after the leach becomes full. When ready to make soap, heat water and pour on till the lye runs, as much as is wanted, or until it appears of sufficient strength.

Put all the grease, bones, &c., in an iron kettle, which place over the fire, and add sufficient lye to cover; then boil until it appears soapy, before adding more lye. Then add lye, and keep boiling gradually, adding more lye to prevent boiling over. When sufficiently thick, which may be determined by taking out a little and cooling it, remove from the fire and let it cool, and your soap is made.

If the lye used is too weak to make thick soap, it may be made thick by dissolving two or three pounds of sal soda to a barrel of soap, and stirring it in the soap while it is warm. I have thickened very thin soap in this way, when my lye was too weak to make thick soap. White clothes will wash easier with such soap than if sal soda were not added.

Hard soap may be made by adding a peck or more of salt to soft soap, and letting it boil till it begins to rise thick at the top. Let it stand overnight to cool, and cut in squares or bars, then place it on boards in a dry place, until it dries sufficiently. This makes a light colored soap.—Rosin added with the salt makes it yellow.—*H. in Rural American.*

##### To make Pickles Green.

Line the bottom of your kettle with green cabbage leaves, put in your pickles, and as much vinegar and water, mixed in equal quantities, as will cover them. Put a layer of cabbage leaves on the top. Hang them over a slow fire; let the water get hot, but do not allow them to simmer, as that would soften them. When they are perfectly green, take them out and let them drain. Wipe them dry, put them in jars with some allspice, cloves, and a few small onions, or cloves or garlic. A piece of alum in each jar will keep them firm. Cover your pickles with the best cider vinegar, tie them close and keep them in a cool, dry place. By adding one tablespoonful of sugar, it will be found a great improvement.

#### For Our Young Friends.

##### A Riddle.

The following riddle is from the Boston Transcript. We will next week publish the solution as given by a correspondent of that paper:

An ornament Queen Mary wore,  
A volume of the grief she bore—  
A kind of net, and what I own,  
Queen Mary was not when alone;  
A soldier of the olden time,  
Scotland's chief town, a place where crime  
Hath expiated been, if true  
What my last word conveys to you,  
These words discovered, rightly view  
The initials and the final too:  
The first will show a well-known place,  
Where passed a scene of dire disgrace,  
The last an actor in that scene;  
Connected both with Scotia's Queen.

Answer to Miscellaneous Enigma of last week:  
WILLIAM HARRIS CRAWFORD of Georgia.

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**SPARKLING CIDER,**  
**STILL CIDER.**

**SULPHATE OF LIME** is highly recommended by Prof. Horsford (see the Farmer for Nov. 5) and is endorsed by the Massachusetts Agricultural Society, in arresting the fermentation of Cider at any stage at will.  
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- IX. OTHER NEW IMPLEMENTS—SIX ENGRAVINGS.
- X. FRUITS AND FRUIT CULTURE—SEVEN ENGRAVINGS.
- XI. SUPPLEMENTARY LIST OF NURSERIES.
- XII. RURAL MISCELLANY—TWELVE ENGRAVINGS.

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do do do, First Premium, 1858,

Maryland State Fair, First Premium, 1858,

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and during this period have witnessed its salutary effects in curing the diseases for which it is recommended, viz

**Acute and Chronic Diarrhea and Cholera Morbus,**

In our own, and in the families of our customers, and have also seen its successful administration in cases of

**CHOLERA INFANTUM.**

We do, therefore, confidently recommend it to all those who may be afflicted with those distressing and dangerous complaints, as offering one of the best means for their cure or relief:

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